State Development Assessment Provisions Supporting Guideline

Development in a state-controlled road environment

Version 1.0 (2023)

Queensland Government

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1. Introduction

The *State Development Assessment Provisions Supporting Guideline - Development in a state-controlled road environment* (the Guideline) provides:

- specific technical guidance on how to demonstrate compliance with the State Development Assessment Provisions (SDAP) in relation to managing potential impacts on the safety and operational efficiency of the state-controlled road network
- important information for the preparation of applications involving development, works or activities in proximity to existing and future state-controlled roads
- useful information about the state's requirements when undertaking works or activities within the state-controlled road environment.

1.1 How to use this guide

This Guideline provides explanatory guidance to support applicants in preparing development applications that comply with SDAP *State code 1: Development in a state-controlled road environment*. The code provides assessment criteria that seeks to ensure development protects the safety of people using, living and working near state-controlled roads. This includes ensuring development appropriately manages any impacts to existing and future state-controlled roads, planned upgrades, corridor improvements and infrastructure.

The Guideline is not statutory and is to be read in conjunction with State code 1. It has been prepared by the Department of Transport and Main Roads (TMR).

The format of the Guideline is outlined in **Table 1** below.

Table 1 Guideline structure

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Chapter 1	**Introduction**
Chapter 2	**Background**
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Chapter 3.1	Structure of the State code 1
Chapter 3.2	Development in general
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Chapter	Detail
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Chapter 4.2	Other works in a future state-controlled road environment
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Appendix 1	Basic stormwater information
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2. Background

2.1 Planning and development framework

2.1.1 Planning legislation

The *Planning Act 2016* provides the legislative framework for planning and development assessment in Queensland. Under the *Planning Act 2016*, the State Assessment and Referral Agency (SARA) assesses development as a referral agency to ensure the safety and efficiency of existing and future state transport corridors and infrastructure.

The *Planning Regulation 2017* defines a state transport corridor as a:

- busway corridor, or
- light rail corridor, or
- railway corridor, or
- state-controlled road.

Development with the potential to impact an existing or future state transport corridor and/or state transport infrastructure requires referral to SARA for assessment in accordance with the *Planning Regulation 2017*. State transport corridor referrals for development in proximity to a state-controlled road can be summarised as development:

- located within 25m of a state-controlled road
- located on a future state-controlled road
- located adjacent to a road and within 100m of a state-controlled road intersection.

SARA will assess referred applications against the relevant SDAP state codes. As part of this assessment, SARA will circulate referred applications to TMR for technical advice.

For further information on the planning and development framework, please refer to the Queensland Government's planning website (https://planning.statedevelopment.qld.gov.au/).

2.2 Key terms and concepts

2.2.1 State-controlled road environment

For the purpose of SDAP, the state-controlled road environment comprises the following:

- existing and future state-controlled roads and road transport infrastructure, including the land on which road transport infrastructure or road works are situated, the land below and the airspace above
- the area in proximity to a state-controlled road where development can impact existing and future state-controlled roads, road transport infrastructure and works on a state-controlled road.

The area in proximity to the state-controlled road should be determined with reference to the relevant state transport corridor referral requirements prescribed by the *Planning Regulation 2017*. In the majority of referred development applications, this will be a land parcel that is wholly or partially located within 25 metres of a state transport corridor as illustrated in **Figure 1**.

Relevant legislative definitions required to interpret the concept of the state-controlled road environment are available in **Chapter 6 Glossary of terms.**

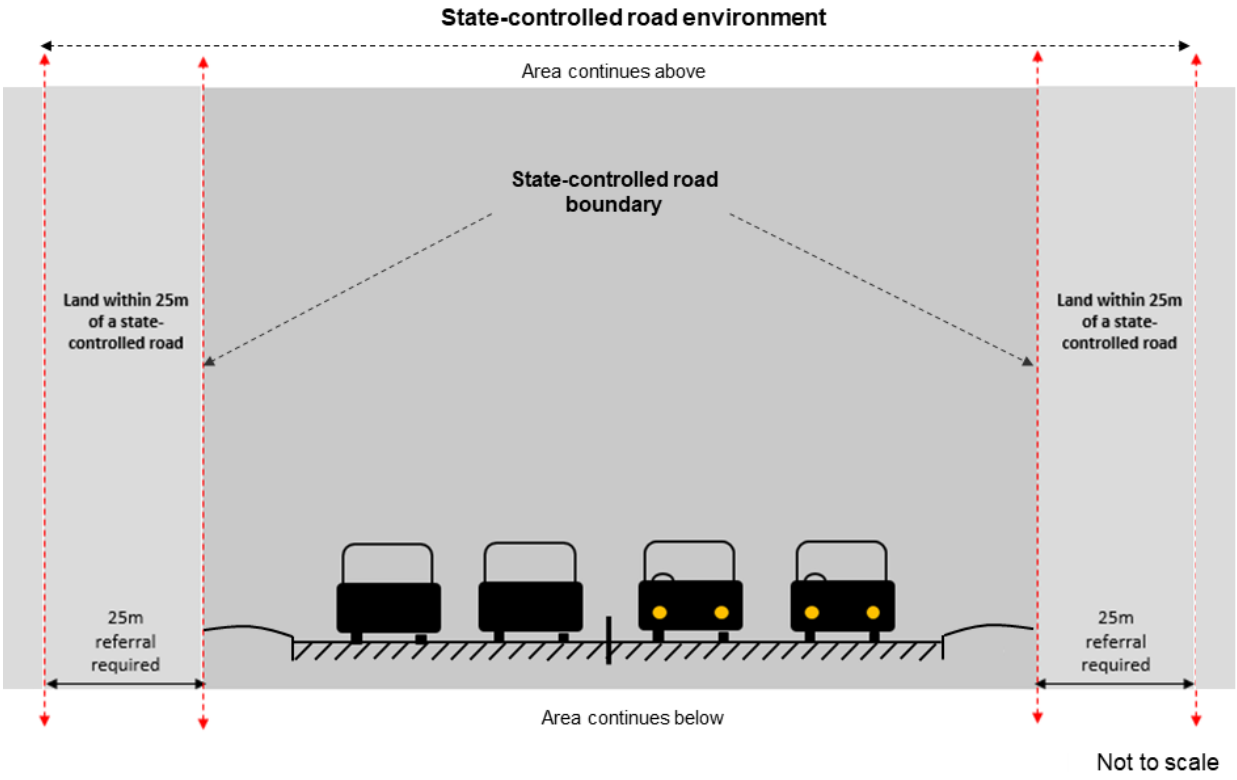

Figure 1 State-controlled road environment

2.2.2 Future state-controlled road environment

The future state-controlled road environment comprises of land identified for a future state-controlled road. A future state-controlled road is a road or land for which TMR has provided a written notice to a local government and published in the government gazette the intention for the road or land to become a state-controlled road, in accordance with section 42 of the *Transport Infrastructure Act 1994*.

2.2.3 Development located within 100m of an intersection with a state-controlled road

A development application where all or part of the site is located within 100m of an intersection with a state-controlled road requires referral to SARA for assessment against State code 1, as illustrated in **Figure 2**.

The 100m metre setback from an intersection with a state-controlled road is measured from the point at which traffic pulls up to give way to through-traffic at the relevant intersection. In practical terms, this means the line where a driver must stop their vehicle to give way to traffic before entering a state-controlled road.

Intersections will also occur at on-ramp and merge locations where there is no identified point to pull up and give way. In such cases, the point of intersection is measured from the intersect of the local road centreline and the state-controlled road centreline.

2.2.4 Development Assessment Mapping System

The Development Assessment Mapping System (DAMS) provides spatial mapping data to help applicants interpret SDAP. Regarding development in an existing or future state-controlled road environment, DAMS provides mapping identifying:

- state-controlled roads
- areas within 25m of a state-controlled road
- areas located adjacent to a road and within 100m of a state-controlled road intersection
- future state-controlled roads
- limited access roads:
    - limited access roads – LAR 1
    - limited access roads – LAR 2
- planned upgrades for state-controlled roads.

DAMS can be accessed at https://dams.dsdip.esriaustraliaonline.com.au/damappingsystem/. DAMS is updated periodically. Where there is inconsistency between DAMS mapping and a referral trigger under legislation, the legislation takes precedence.

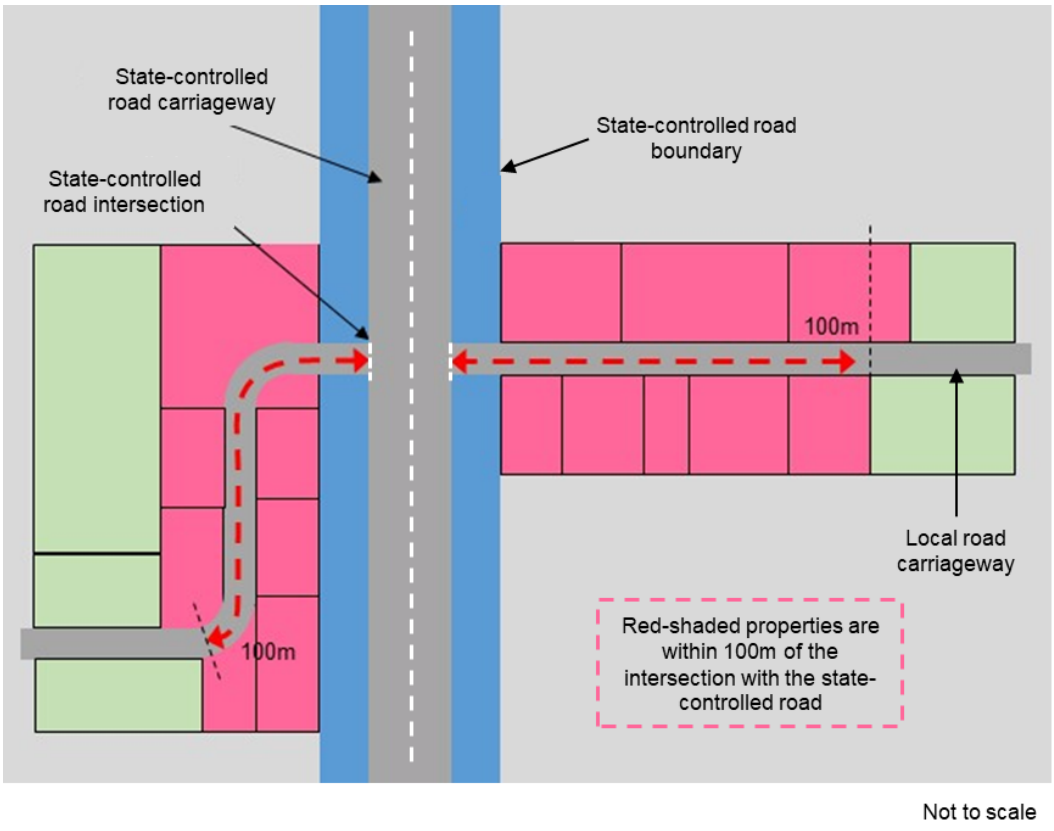

Figure 2 Development located within 100m of an intersection with a state-controlled road

3. State Code 1 – Development assessment provisions

This chapter provides important information regarding development in a state-controlled road environment. This includes guidance regarding how to demonstrate compliance with State code 1.

3.1 Structure of State code 1

State code 1 contains a purpose statement, performance outcomes and acceptable outcomes. The purpose statement provides the overall objectives for the code, including the general outcomes the code is seeking to achieve. The performance and acceptable outcomes establish the benchmarks for achieving the purpose statement.

If a development application complies with all the relevant acceptable outcomes, it complies with the purpose statement of the code and therefore the code itself. If an application does not comply with one or more of the acceptable outcomes, an alternative means of meeting the performance outcomes should be proposed.

Acceptable outcomes are provided for some, but not all performance outcomes. In instances where an acceptable outcome/s is not provided, a development application must demonstrate it complies with all the relevant performance outcomes or the overarching purpose statement (see **Table 2**).

Table 2 SDAP – Hierarchy of outcomes

Scenario	Acceptable outcomes	Performance outcomes	Purpose statement	Outcome
1	complies with all	complies	complies	✓ complies with code
2	does not comply with all (or no AOs provided)	complies with all	complies	✓ complies with code
3	does not comply with all (or no acceptable outcomes provided)	does not comply with all	complies	✓ complies with code
4	does not comply with all (or no acceptable outcomes provided)	does not comply with all	does not comply (despite compliance with some acceptable outcomes and performance outcomes	✗ does not comply with code

3.2 Development in general

The inappropriate siting or design of buildings, structures, services and utilities has the potential to impact on the state-controlled road network. These issues can generally be classified into the following categories:

- safety in general
- structural integrity and physical condition
- operating performance
- obstruction
- distraction
- road, pedestrian and bikeway bridges
- public utilities and structures.

Collectively, these factors can have a range of adverse impacts on the state-controlled road network, including:

- increasing the likelihood or frequency of accidents, fatalities or serious injury
- impacting on the efficient operation of the state-controlled road network
- impacting on the physical operation of the road and any associated road transport infrastructure.

3.2.1 Safety in general

Safety is the key consideration for development interacting with the state-controlled road network. TMR has a vision of zero deaths and serious injuries on Queensland's roads. All new development may potentially affect road safety due to:

- increases in traffic volume or turning traffic volumes
- increases in the number of conflict points between vehicles and other vehicles, pedestrians, and cyclists
- the provision of new infrastructure, such as access roads and driveways
- intensified use of existing infrastructure
- changes to sight lines
- changes to vehicle types using roads
- changes to on street parking.

The state will not accept any development that results in an adverse safety outcome on the state-controlled road network. As a result, development must identify and address all relevant pre-existing or development-introduced safety issues on the state-controlled road network.

TMR's *Guide to Traffic Impact Assessment* outlines the principles that guide the assessment of development-related traffic impacts on the state-controlled road network.

To achieve the relevant SDAP provisions:

Provide a traffic impact assessment, certified by a relevant Registered Professional Engineer of Queensland (RPEQ) and prepared in accordance with the *Guide to Traffic Impact Assessment*, that demonstrates the development will not compromise safety on the state-controlled road network, including:

- evidence, such as a road safety risk assessment for all transport modes (including pedestrians and cyclists), showing the development will not increase the likelihood or severity of crashes with the potential to result in a fatality or serious injury on the state-controlled road network
- details of mitigation works or road-use management strategies to address any existing or development introduced safety impacts.

3.2.2 Structural integrity and physical condition

Development and associated works in a state-controlled road environment, including filling, excavation and retaining structures, can impact the safety and structural integrity of road transport infrastructure and land located in a state-controlled road. Specifically, development proposing ground disturbance can de-stabilise or undermine road transport infrastructure and the land supporting this infrastructure through vibration impacts, ground movement, subsidence and groundwater impacts. Earthworks can also result in the removal of forces supporting or keeping road transport infrastructure in place, or the addition of forces that the infrastructure is not designed to withstand. In both instances, works may cause damage to road transport infrastructure.

Certain types of development can generate large volumes of heavily loaded trucks which can diminish the life of road transport infrastructure, such as bridges. Inappropriate development can also impact the structural integrity and physical condition of infrastructure within a state-controlled road environment. This includes stormwater and drainage infrastructure, pedestrian and cycling infrastructure, bridges, fencing and signage.

SDAP defines 'structural integrity' as meaning:

> *"the retention of the infrastructure's physical condition over time. This avoids an element of the structure breaking or malfunctioning causing the structure itself to fail, sooner than expected".*

Development impacting on the structural integrity or the physical condition of a state-controlled road or road transport infrastructure can result in serious injury, loss of life and costs associated with addressing the impacts on the road and/or infrastructure. In addition, any person who is deemed to have interfered with a state-controlled road or its operation may be subject to a penalty in accordance with the *Transport Infrastructure Act 1994*.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information identifying any proposed works or activities on or in proximity to a state-controlled road or road transport infrastructure.

For development with the potential to impact on a state-controlled road or road transport infrastructure, including development with loading implications or will cause vibration during construction or operation, provide a RPEQ certified report that demonstrates the proposed development will not compromise the structural integrity of the state-controlled road or transport infrastructure.

3.2.3 Operating performance

The state-controlled road network includes the major traffic carrying and linking roads across Queensland. This network is used for a wide range of purposes, including the movement of freight, tourist trips and enabling Queenslanders to access essential services across the state. Subsequently, the state-controlled road network is of critical importance to national, state and regional economic growth, development and connectivity.

Operating performance relates to how effectively and efficiently traffic on a state-controlled road functions or flows. Inappropriate development can cause traffic delays on a state-controlled road. These delays will have various economic and social impacts on the community, including increased travel times, driver impatience leading to increased risk taking and adverse safety outcomes and the associated cost of delays to both private and commercial vehicle movements.

Examples of development adversely impacting on the operating performance of a state-controlled road include:

- development generating an increase in vehicle movements through an intersection that will result in a significant traffic delay
- development generating a significant amount of additional traffic that will impact on the level of service of a particular link of the road network.

Inappropriate development may also impact on road or transport infrastructure's ability to operate as intended. For example, run off from a subject site causing siltation of stormwater and drainage infrastructure.

Development must avoid, manage or mitigate any potential impacts to the operating performance of the state-controlled road network in accordance with the *Guide to Traffic Impact Assessment*. The no net worsening principle in the *Guide to*

Traffic Impact Assessment seeks to ensure that the characteristics of the transport network with development are not significantly worse than the current and forecast characteristics without the development. This may include upgrading impacted intersections or providing road upgrades to create additional capacity.

To achieve the relevant SDAP provisions:

Provide a RPEQ certified traffic impact assessment, prepared in accordance with the *Guide to Traffic Impact Assessment*, demonstrating that development will avoid, manage or mitigate any adverse impacts on the operating performance of the state-controlled road network.

Provide supporting information demonstrating that development will not impact on the operation of road transport infrastructure.

3.2.4 Obstruction

Development has the potential to compromise safety and efficiency by being located, designed, constructed or operated in a way which obstructs the state-controlled road or road users. Development that blocks or partially blocks sight lines on a state-controlled road can result in limited forward visibility for road users which can increase the risk of a collision by reducing reaction times and stopping distances. This is particularly important in 'high risk' areas, including high speed road environments and where there a range of different road users, including pedestrians and cyclists.

Construction and maintenance activities can also obstruct the state-controlled road and road users. These activities can divert vehicle, pedestrian or cycle traffic onto a state-controlled road which can increase the number of potential conflict points between road users.

Development that obstructs road transport infrastructure can also slow the traffic flow and effect the through traffic function of the network. An example of this is a development that proposes a structure which will block a road user's view of a traffic signal. Landscaping and awnings associated with a structure can also obstruct the state-controlled road. Development should be designed so that all construction and maintenance activities, including the provision of footpaths, roadside and traffic lanes, can be undertaken without requiring access to the state-controlled road.

To achieve the relevant SDAP provisions:
Provide scaled and sufficiently detailed plans and supporting information, such as landscaping design drawings, that demonstrates:

- buildings, structures and works associated with the development, including, infrastructure, awnings, landscaping, services and utilities, are located outside the state-controlled road
- buildings, structures, landscaping works or activities in proximity to a state-controlled road do not block or obscure sight lines on a state-controlled road
- construction and maintenance activities do not divert vehicle, pedestrian or cycle traffic onto a state-controlled road.

3.2.5 Distraction

Inappropriate development in proximity to a state-controlled road has the potential to distract road users. This distraction can have a range of adverse impacts, including increased traffic incidents resulting in serious injury and loss of life.

When designing a development, an applicant should ensure that proposed buildings and structures do not include features which have the potential to distract road users, including flashing lights and reflective surfaces. Where a development will include lighting with the potential to distract road users, possible mitigation options include:

- landscaped buffers between a light source and the state-controlled road (note, interim measures should be included for a period until vegetation reaches the height required to screen safety hazards)
- shields on light sources to prevent direct light being emitted into the face of oncoming traffic on a state-controlled road

- automated dimming in accordance with ambient light conditions/levels
- fencing between a light source and a state-controlled road.

Another potential source of distraction for road users is advertising devices. To reduce the potential impacts on road safety and traffic efficiency, roadside advertising devices outside the boundaries of, but visible from, state-controlled roads should be assessed against the location, placement, design and operation criteria in the *Roadside Advertising Manual*.

The department has authority under section 43 of the *Transport Infrastructure Act 1994* to regulate advertising outside the boundaries of, but visible from, motorways. Local governments must obtain the department's written approval for the construction, alteration or operation of an advertising device when the device is visible from a motorway.

To achieve the relevant SDAP provisions:
Provide supporting information to demonstrate that:

- facades of buildings and structures visible from a state-controlled road are made of non-reflective materials
- buildings and structures do not reflect point light sources into the face of oncoming traffic on a state-controlled road
- external lighting is not directed into the face of oncoming traffic on a state-controlled road
- external lighting does not involve flashing or laser lights
- advertising devices visible from a state-controlled road are located, designed and operated in accordance with the *Roadside Advertising Manual*.

3.2.6 Road, pedestrian and bikeway bridges over or near state-controlled roads

Where a development proposes road, pedestrian and bikeway bridges that are over or near a state-controlled road, consideration needs to be given during the design and construction phases to ensure the structure does not provide opportunities for projectiles to be thrown onto the road. Objects thrown into traffic is a serious road safety issue and can cause property damage and increase the risk of crashes.

To achieve the relevant SDAP provisions:

Provide a RPEQ certified drawing(s) and supporting information demonstrating that any road, pedestrian or bikeway bridge over a state-controlled road includes throw protection screens designed in accordance with the *Design Criteria for Bridges and Other Structures Manual*.

3.2.7 Public utilities

3.2.7.1 Public utilities required by a development

Public utilities on a state-controlled road, if not appropriately designed and located, can have an adverse impact on the safety of the road and its users. Subsequently, TMR's preference is that public utilities required to service a development are not located on a state-controlled road. Where the provision of public utilities on a state-controlled road is unavoidable, it should be designed and provided in accordance with relevant TMR approvals, standards and design specifications.

Approvals to install public utility assets should only be sought by public utility authorities, not applicants. Should the public utility provider insist the applicant install utility assets, then the assets can be gifted to the public utility provider. A separate approval for each utility type is required to be requested by the applicant under section 50 of the *Transport Infrastructure Act 1994*. Failure to receive an appropriate permit or comply with TMR conditions and standards, will mean any such works are unlawful. A development approval does not provide approval to install a public utility on a state-controlled road.

3.2.7.2 Development impacting existing public utilities

Where a development will impact on existing public utilities in or in proximity to a state-controlled road, the applicant must demonstrate how these impacts will be managed or mitigated, including any possible relocation of utilities or services. The applicant is also responsible for any costs associated with the proposed mitigation and management activities and obtaining any relevant approvals from the relevant utility provider(s).

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans that:

- identify the location of any public utilities in a state-controlled road environment, relative to the development site and the relevant state-controlled road(s)
- demonstrate the development does not impact existing public utilities, or
- demonstrate how the development will mitigate or manage any potential impacts on existing public utilities.

3.2.8 Additional information (development in general)

Technical guidance

- *Guide to Traffic Impact Assessment* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guide-to-Traffic-Impact-Assessment.
- *Roadside Advertising Manual* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Roadside-advertising-manual.
- *Design Criteria for Bridges and Other Structures Manual* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Bridge-design-and-assessment-criteria.
- *Technical Note 163: Third Party Utility Infrastructure Installation in State Controlled Roads Technical Guidelines* is available online at: https://www.tmr.qld.gov.au/-/media/busind/techstdpubs/Technical-notes/Road-design/TN163.pdf?la=en.

3.2.8.1 What information should a development application include?

Table 3 Development in general (supporting information)

#	Technical Information
1	**Scaled and sufficiently detailed plans** with cross sections and/or sections which clearly identify all aspects of the development in relation to a state-controlled road, road transport infrastructure or road works, including any intended staging for the development. The plans should clearly show: • the site's property boundaries • the location, footprint and setbacks of all existing and proposed buildings, structures, infrastructure, services, utilities • existing and proposed works impacting the state-controlled road.
2	**RPEQ certified Traffic Impact Assessment** prepared in accordance with *Guide to Traffic Impact Assessment*, including a road safety assessment or audit.
3	**RPEQ certified report** that demonstrates that the proposed development will not compromise the structural integrity of the state-controlled road or transport infrastructure.

What other approvals are required?

Any works, structures or activities within a state-controlled road, including accessing a site for maintenance purposes, is subject to TMR approval processes under the *Transport Infrastructure Act 1994*. For further information, refer to **Chapter 5 of this Guideline**.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.3 Stormwater, flooding and overland flow

Stormwater, flooding, overland flow and drainage impacts associated with development, including during construction and ongoing operation, have the potential to adversely impact the safety, structural integrity and operating performance of a state-controlled road and road transport infrastructure. This includes increasing the risk of road closures and resulting in adverse impacts to state-controlled roads caused by changes to peak discharges, flood levels, the frequency/ duration of flooding, flow velocities, water quality, sedimentation and scour effects. This has the potential to lead to loss of life and damage to infrastructure.

The drainage system of a state-controlled road is a key asset that is controlled and maintained by TMR. The state-controlled road drainage system often discharges to the broader local government trunk drainage network and may not be designed to take any additional runoff from adjacent development.

Development must demonstrate that it does not result in an adverse stormwater or flooding impacts on the state-controlled road network, including:

- stormwater run-off and overland flow from the development site:
    - does not compromise safety for road users, including during construction
    - does not result in the material worsening of a road's operating performance
    - does not interfere with or undermine the structural integrity or physical condition of a state-controlled road or road transport infrastructure
    - is lawfully discharged and does not adversely affect existing water quality
- development does not impact the flood immunity or existing level-of-service of a state-controlled road by:
    - worsening any existing flooding conditions within a state-controlled road
    - increasing risk of water concentrating, ponding on or overtopping a state-controlled road
    - interfering with or undermining the structural integrity of a state-controlled road, including the erosion of land surrounding infrastructure
- ensuring drainage infrastructure is carefully planned to ensure it:
    - does not create a safety hazard for users of a state-controlled road, including during construction
    - is in a suitable location
    - is constructed in accordance with the relevant Queensland standards
    - does not interfere with or undermine the structural integrity of a state-controlled road or road transport infrastructure.

To achieve the above, applicants should provide either basic stormwater information (see **Chapter 3.3.1**) or a RPEQ stormwater management plan (see **Chapter 3.3.2)**. A development may also have to provide a flood impact assessment as part of a stormwater management plan (see **Chapter 3.3.3**).

Please note, the state will assess cumulative impacts in addition to the individual development impacts associated with the development application. These impacts are where the development currently being proposed is one of several (or many) that may occur. One individual development may not have an adverse impact, but further similar developments may be unacceptable when combined.

3.3.1 Basic stormwater information

Where a development is unlikely to have stormwater, overland flow and drainage impacts on a state-controlled road, basic stormwater information may be provided to demonstrate compliance with State code 1. Specifically, basic stormwater information can only be provided where a development is proposing all of the following:

- no change or a reduction to the impervious area on the development site
- no change to existing lawful points of discharge

- no new points of discharge to a state-controlled road
- no concentrated flows to a state-controlled road
- is not located in a flood prone area, including overland flow path.

Basic stormwater information should be developed in accordance with the requirements outlined in **Appendix 1**.

To achieve the relevant SDAP provisions:

Provide basic stormwater information (refer to **Appendix 1** for guidance on preparing basic stormwater information).

3.3.2 Stormwater management plan and flood impact assessment

All other development applications should demonstrate compliance with the relevant stormwater and overland flow provisions in State code 1 by providing a stormwater management plan.

The stormwater management plan should be certified by a RPEQ and prepared in accordance with the *Road Drainage Manual* and the *Queensland Urban Drainage Manual*. A flood impact assessment may also be required as part of a stormwater management plan (see **Chapter 3.3.3**).

Any assessment of flooding and drainage issues must consider a range of flood/stormwater events and durations, including 63%, 39%, 18%, 10%, 5%, 2% and 1% annual exceedance probability.

To achieve the relevant SDAP provisions:

Provide a RPEQ certified stormwater management plan (refer to **Appendix 2** for guidance on preparing a stormwater management plan).

3.3.3 Flood impact assessment

Flood impact assessment - flooding

Development has the potential to adversely affect the flood immunity or increase the risk of water concentrating, ponding, or overtopping a state-controlled road or future state-controlled road. This can adversely affect the safety of road users during flood events and the structural integrity of the road itself. Adverse impacts can be caused by changes to peak discharges, flood levels, the frequency/duration of flooding, flow velocities, water quality, sedimentation, and scour effects.

In some cases, when determined by assessment against relevant local government's flood searches and mapping, a RPEQ certified flood impact assessment may be required if the subject site is flood prone, including from overland flow. Furthermore, any proposed earthworks or filling in a flood prone area must also be supported by a relevant flood impact assessment.

An application proposing works or structures in proximity to a state-controlled road must address any existing or potential flooding/drainage issues. This assessment must be undertaken by a suitably qualified and experienced RPEQ who can determine which flooding/drainage issues are relevant to the local context. Any assessment of flooding and drainage issues must consider a range of flood/stormwater events and durations, including 63%, 39%, 18%, 10%, 5%, 2% and 1% annual exceedance probability. If the corridor and development are located within a floodplain, then the assessment undertaken must take account of the appropriate regional flooding mechanisms in addition to local runoff and overland flows.

Any assessment must also provide an appropriate allowance for climate change for design events where this is a requirement of the relevant local government.

A flood impact assessment must be undertaken by a RPEQ in accordance with relevant, best practice standards and guidance material, including:

- *Road Drainage Manual*
- *Hydrology and Hydraulic Modelling Guideline*
- *Australian Rainfall and Runoff* (for hydrologic methods)
- *Queensland Urban Drainage Manual*.

Flood impact assessment - hazard categories

Safety on flooded roads is dependent on the depth and velocity criteria of flood waters. Hazard categories provide an indication of the risk to pedestrians and vehicles using roads in flood conditions. General flood hazard categories are listed in the *Australian Rainfall and Runoff* (for hydrologic methods). Development should avoid increasing the flood risk for pedestrians and vehicles using roads in flood conditions. The flood impact assessment undertaken for a development must consider the potential of cumulative impacts in addition to the individual development impacts.

To achieve the relevant SDAP provisions:

Provide detailed plans and supporting information demonstrating that the development site is not flood prone, such as relevant local government flood searches and mapping, including from overland flow,

OR

If the development site is identified as being flood prone, provide a RPEQ certified flood impact assessment (refer to **Appendix 2** for guidance) summarising:

- the methodology used to develop the inputs into the flood impact assessment
- provide detailed flood modelling that demonstrates no adverse impacts to a state-controlled road.

Note, the flood impact assessment and TMR in its assessment must consider the potential for cumulative impacts in addition to the individual development impacts associated with the development application.

3.3.4 Drainage infrastructure

The design and construction of drainage infrastructure associated with a development has the potential to create a safety hazard for users of a state-controlled road, undermine the operation and maintenance of a state-controlled road and alter the structural integrity and physical condition of existing drainage infrastructure and the surrounding drainage network. For example, a development that includes drainage infrastructure that concentrates significant flows of water onto the state-controlled road can result in flooding on the road which in turn increases the potential for crashes resulting in a

fatality or serious injury. The concentration of significant flows onto the state-controlled road can also impact the structural integrity of the road as it may not have been designed to accommodate that amount of water.

To achieve the relevant SDAP provisions:

Provide detailed plans and supporting information demonstrating that drainage infrastructure is not proposed in proximity to a state-controlled road.

OR

Where drainage infrastructure is in proximity to a state-controlled road, provide scaled and sufficiently detailed plans and a RPEQ certified stormwater management plan (refer to **Appendix 2** for guidance) that demonstrates:

- drainage infrastructure is wholly contained within the development site, except at the lawful point of discharge
- drainage infrastructure can be maintained without requiring access to a state-controlled road
- stormwater or drainage infrastructure for a development is fit for purpose for the life of the development
- design parameters of stormwater and drainage infrastructure associated with, or within the state-controlled road are in accordance with TMR's *Road Drainage Manual* (2019)
- development does not interfere with, or damage, infrastructure within the state-controlled road or future state-controlled road
- pre-development stormwater flows to the state-controlled road is not increased in the post-development scenario
- development does not concentrate flows to a state-controlled road
- velocity x depth product is less than 0.4m2/s at kerb.

3.3.5 Lawful discharge of stormwater

Development must ensure that stormwater is lawfully discharged via a lawful point of discharge. Stormwater that is not directed to a lawful point of discharge can cause flooding and damage to neighbouring properties and the state-controlled road. A lawful point of discharge is the location where water from a property is channelled towards and is discharged via drains, pipes or concentrated overland flow to local stormwater infrastructure or infrastructure of another statutory authority from whom permission to discharge has been received.

To achieve the relevant SDAP provisions:

Provide detailed plans and supporting information demonstrating that the development proposes no change to existing lawful points of discharge.

OR

Provide scaled and sufficiently detailed plans and a RPEQ certified stormwater management plan (refer to **Appendix 2** for guidance) that demonstrates:

- development does not create any new points of discharge to a state-controlled road
- development does not concentrate flows to a state-controlled road
- stormwater run-off is discharged to a lawful point of discharge
- development does not worsen the condition of an existing lawful point of discharge to the state-controlled road.

3.3.6 Additional information (stormwater, flooding and overland flow)

Technical Guidance

- *Australian Rainfall and Runoff* (for hydrologic methods) is available online at: https://arr.ga.gov.au/arr-guideline.
- International Erosion Control Association's *Best Practice Erosion and Sediment Control* document is available online at: https://www.austieca.com.au/publications/best-practice-erosion-and-sediment-control-bpesc-document.
- *Queensland Urban Drainage Manual*, 4th Edition (2017) – published by IPWEA Qld is available online at: https://www.ipweaq.com/qudm.
- *Hydrology and Hydraulic Modelling Guideline* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Hydrologic-and-Hydraulic-Modelling.
- *Road Drainage Manual* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Road-drainage-manual.aspx.

What information should a development application include?

Table 4 Required technical information (stormwater, flooding and overland flow)

#	Technical Information
1	**Scaled and sufficiently detailed plans** (including scaled technical drawings) showing basic stormwater information (refer to **Appendix 1** for guidance on preparing basic stormwater information). Basic stormwater information is relevant where a development is proposing: • no change or a reduction to the impervious area on the development site • no change to existing lawful points of discharge • no new points of discharge to a state-controlled road • is not located in a flood prone area, including overland flow.
2	**A RPEQ certified stormwater management plan**, prepared in accordance with the *Queensland Urban Drainage Manual*, that includes details of the mitigation measures proposed to address any potential stormwater impacts (including flooding impacts) of the proposed development (refer to **Appendix 2** for guidance on preparing a stormwater management plan). A stormwater management plan may include a flood impact assessment (refer to **Appendix 2** for guidance on preparing a stormwater management plan).

3.4 What other approvals are required?

Any works, structures or activities on a state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A development approval does not authorise construction of drainage infrastructure in a state-controlled road corridor.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

Further information on the other approvals required by TMR are provided in **Chapter 5**.

3.5 Vehicular access to a state-controlled road

Managing vehicular access between a state-controlled road and adjacent land is essential to ensure the safety of all road users. Vehicular access in a state-controlled road environment has the potential to create a safety hazard for road users by increasing the number of conflict points on the network. This, in turn, will increase the likelihood of a traffic incident on a state-controlled road, often in a high speed road environment, which can result in a fatality or serious injury.

Unmanaged vehicular access in a state-controlled road environment can also limit the network's ability to function efficiently which can have far-reaching economic impacts for Queensland. As a result, TMR must balance the needs of interested parties to obtain access in a state-controlled road environment with the broader community's need for the safe and efficient operation of Queensland's transport network.

The location, design and construction of a vehicular access to a state-controlled road can also compromise the structural integrity of public passenger transport infrastructure or operating performance of public passenger transport services. This includes restricting the ability of users to effectively access public transport infrastructure and services.

Generally, TMR will only support one of the following outcomes regarding the provision of vehicular access within a state-controlled road environment:

- there is no proposed or existing vehicular access to a state-controlled road or access within 100m of an intersection of a state-controlled road, or
- vehicular access will be provided via a local government road and complies with the *Vehicular access to state-controlled roads policy* (Vehicular Access Policy), or
- vehicular access to a state-controlled road complies with the Vehicular Access Policy.

TMR has the power to declare a state-controlled road as a limited access road. Any declaration of a limited access road must be supported by the publishing of a limited access policy which addresses the provision of vehicular access to the road from adjacent land.

The Vehicular Access Policy establishes TMR's policy position when assessing a new or modified vehicular access to a state-controlled road. The policy is available online at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval/Vehicle-access-to-State-Controlled-Roads-policy .

3.5.1 Demonstrating compliance with the Vehicular Access Policy

For a development to demonstrate compliance with the Vehicular Access Policy, the following must be met:

Policy Principle 1 - Safety

There is a strong relationship between increased numbers of access locations, increased frequency of the use of access points and increased crash rates. TMR regards safety as paramount in the road environment and seeks to ensure the safety of all road users of the state-controlled road network.

Where the provision of a new or modified vehicular access has the potential to create a safety risk, the applicant must demonstrate how this issue will be avoided, managed or mitigated. Possible options include the relocation, modification or removal of a new or amended vehicular access.

Safety of vulnerable road users

Footpaths, shared paths and bike paths separate vulnerable road users from motor vehicles. The provision of a new or modified vehicular access location in proximity to active transport infrastructure can create conflict points between vulnerable road users and motor vehicles. As a result, any new or modified vehicular access must demonstrate that it will not create a potential safety risk.

In circumstances where a development has the potential to create an unacceptable risk, measures must be undertaken to avoid, manage or mitigate the issue(s). This may include relocating, modifying, limiting or removing the vehicular access to prioritise the safety of vulnerable road users.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information that demonstrate vehicular access to a state-controlled road, and any associated road works:

- does not result in an unacceptable impact to road safety, including increasing the likelihood or severity of crashes
- does not impede the ability of patrons, pedestrians and cyclists to safely access and use other transport infrastructure, including rail, light rail, public passenger transport and active transport
- adequate sight lines are provided between pedestrians and vehicles leaving driveways, particularly in accesses to car parks where vehicle flow may be high.

Treatment options to improve safety of pedestrians, bicycle riders and other path users at driveways is available online at: https://www.tmr.qld.gov.au/Travel-and-transport/Pedestrians-and-walking/Guidance-and-Resources/Pedestrian-and-Walking-Guidance-and-Resources/Paths-for-walking

Policy Principle 2 - Function

The primary function of most state-controlled roads is to provide efficient routes for through-traffic, including road freight vehicles. Additional vehicular access points or poorly located vehicular access points can compromise the through-traffic carrying function of a state-controlled road.

Location of vehicular access

Vehicular access to a state-controlled road or within 100m of an intersection of a state-controlled road can impact the functioning of the road by slowing traffic and reducing the 'through carrying' function of the state-controlled road. This arises from 'friction' caused by vehicles slowing down to exit the traffic lane or vehicles entering the traffic lane needing to accelerate to the traffic speed and disrupting the flow of through traffic. These situations may require additional infrastructure to be constructed such as deceleration lanes to safely manage the flow of traffic. Any development seeking a vehicular access on or in proximity to a state-controlled road must demonstrate that it will not undermine or impact the overall function of the state-controlled road network.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information demonstrating that the proposed vehicular access to a state-controlled road, and any associated road works:

- is located and designed to minimise impacts to the through traffic carrying function of the road
- complies with the requirements of a limited access road policy
- consolidate multiple access points to the state-controlled road by redirecting access via a service road or constructing a shared access for adjoining properties.

Active transport infrastructure

TMR is committed to progressively plan, design, construct, maintain and operate the state-controlled road network on the basis that active transport users will use the network. Active transport usage of the state-controlled road network continues to grow, supported by increased cycling patronage and a range of emerging personal mobility devices. As a result, TMR actively seeks to provide dedicated transport infrastructure to support active transport users.

A new or modified vehicular access in a state-controlled road environment creates an additional conflict point and has the potential to introduce new hazards such as holes, gaps, uneven surfaces or debris that could impact the safety of active transport users.

TMR's preference is for development to avoid the relocation of active transport infrastructure. The development should retain existing active transport infrastructure in its original location where appropriate.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information to demonstrate the vehicular access to a state-controlled road, and any associated road works:

- provides safe sight distances for active transport users
- does not create an unacceptable safety risk to active transport users
- does not undermine the structural integrity of active transport infrastructure
- does not undermine users' ability to effectively use active transport infrastructure
- does not obstruct footpaths or dedicated active transport routes.

Public passenger transport infrastructure

Public passenger transport infrastructure is an essential form of transport that facilitates access to employment, education, social services and recreational opportunities, and drives economic growth across the state. State-controlled roads often function as part of the public transport network - accommodating a significant amount of public passenger services and infrastructure.

TMR's preference is for development to retain existing public passenger transport infrastructure in its original location where appropriate.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information to demonstrate that a proposed vehicular access to a state-controlled road, including any associated road works:

- does not encroach on or directly conflict with existing public passenger transport infrastructure including bus zones or public passenger services
- provide safe sight distances for pedestrians and public passenger services
- is not obstructing pedestrian or cycle access to public passenger transport infrastructure or public passenger services
- on-site vehicle circulation gives priority to entering vehicles.

Intersection obstruction and queuing

The functional area of an intersection must be protected from interference by traffic from vehicular accesses. The functional area of an intersection is the area beyond the physical intersection of two roads that comprises the decision and manoeuvre distances on the approaches and departures, plus any required vehicle storage length.

TMR has a clear policy position that vehicular accesses must be minimised within a functional area of an intersection of a state-controlled road. In particular, 'high risk' land uses, including service stations, drive-throughs and corner allotment development must seek to avoid the provision of a vehicular access in the functional area of a state-controlled road intersection.

Where the provision of a vehicular access within a functional area is unavoidable, an applicant must seek to locate the access as far away from the intersection of the state-controlled road as possible and minimise the potential number of

conflict points. In addition, applicants will need to provide supporting evidence demonstrating that any access within the functional area is safe and does not undermine the function of the relevant state-controlled road.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information that demonstrates that a proposed vehicular access to a state-controlled road:

- is not located in the functional area of an intersection with a state-controlled road
- is located as far as practical from the intersection with the state-controlled road
- does not result in an unacceptable safety risk
- does not result in vehicles queuing onto the state-controlled road.

Note: an application for a vehicular access to a state-controlled road may also require the provision of a traffic impact assessment prepared in accordance with the *Guide to Traffic Impact Assessment*.

Policy Principle 3 - Future intent

The Queensland Government makes a significant investment in the transport network, including the state road network. TMR plans for, and manages, infrastructure and roads to ensure the transport network continues to support economic growth and keep our communities connected to employment, recreational opportunities, health, education and other essential services. Vehicular access decisions need to consider this investment and ensure that the state's ability to deliver infrastructure in the future is not compromised.

TMR's planned enhancements to existing state-controlled roads are generally classified as either corridor improvements or planned upgrades. **Chapter 3.7** provides more information on these concepts.

Corridor improvements

Corridor improvements are works wholly contained in the state-controlled road. This may range from infrastructure upgrades, road widening and safety improvements, such as 'Safer Roads Sooner' projects and general maintenance. The provision of a vehicular access in a state-controlled road environment must not undermine the delivery and functional intent of a corridor improvement.

If you are unsure if your proposed development will impact corridor improvements to the state-controlled road, it is best to arrange a pre-lodgement meeting or contact your local TMR regional roads office.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information that demonstrate vehicular access to a state-controlled road:

- does not restrict the ability of TMR to deliver corridor improvements, including additional traffic lanes to cater for capacity increases to intersections and/or the through carriageway
- is not located where it will conflict with the provision of future corridor improvements such as footpaths, cycle routes and public transport infrastructure.

Planned upgrades

Planned upgrades are generally upgrades involving land outside of a state-controlled road, including land owned by a third party. The provision of a vehicular access in a state-controlled road environment must not undermine the delivery and functional intent of a planned upgrade.

If you are unsure if your proposed development will impact planned upgrades to the state-controlled road it is best to arrange a pre-lodgement meeting or contact your local TMR regional roads office.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information that demonstrate vehicular access to a state-controlled road:

- is not located on land required for a planned upgrade mapped under the DA mapping system
- does not impede delivery of planned upgrades mapped under the DA mapping system.

Structures and infrastructure along the frontage of a state-controlled road

Within the boundaries of a state-controlled road, there may be structures and infrastructure that are essential to the operation of the road, and safety of the road users and people living and working in proximity to state-controlled roads. This includes public utilities, noise barriers and active transport infrastructure.

Any development that proposes a vehicular access to, or in proximity to, a state-controlled road must demonstrate that the access will not interfere, damage or constrain any existing or future structures or infrastructure along the frontage of a state-controlled road.

If you are unsure if your proposed development will impact structure or infrastructure along the frontage of a state-controlled road, it is best to arrange a pre-lodgement meeting or contact your local TMR regional roads office.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and supporting information that demonstrate vehicular access to, or in proximity, a state-controlled road does not:

- interfere with an existing noise barrier
- compromise the ability of TMR to deliver a principal cycle network
- impact upon the functioning of existing public utilities within or near the state-controlled road
- interfere with drainage infrastructure located within or near the state-controlled road
- impact on existing or proposed public passenger transport infrastructure.

3.5.2 Limited access roads and limited access road policies

Under section 54 of the *Transport Infrastructure Act 1994*, TMR may declare a state-controlled road as a limited access road. Limited access roads are declared where the department has identified the need for greater regulation of vehicular access to the state-controlled road network.

TMR generally declares strategically important roads, such as motorways and highways that carry large volumes of traffic at high speeds, as limited access roads. Given these roads are extremely important to the effectiveness of the overall transport network, TMR carefully considers any proposed vehicular access to a limited access road.

In accordance with the *Transport Infrastructure Act 1994*, TMR will develop a limited access policy for each declared limited access road. These policies address the management of vehicular access between a limited access road and adjacent land. This informs the general community regarding TMR's plans regarding vehicular access to these roads and how the management of access is specially tailored to the particular characteristics of the limited access road.

For the purposes of SDAP, limited access roads are divided into two categories:

- LAR1 - is limited access road mapped in DAMS as a LAR 1. The limited access policy for LAR1 (or section(s) of road identified as LAR 1) does not allow for any new or changed direct access to the limited access road.
- LAR2 – is a limited access road mapped in DAMS as LAR 2. The limited access policy for LAR 2 (or sections of a road identified as LAR 2) may permit new or changed access to the limited access road.

TMR will consider an application for vehicular access in relation to the vision and strategies contained in the limited access road policy. Applicants are encouraged to read limited access road policies in conjunction with the Vehicular Access Policy.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans that demonstrate that a new or changed access is consistent with the relevant limited access policy and limited access road classification (i.e. LAR 1 or LAR 2).

Limited access roads and supporting policies are available on TMR's website at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval/Limited-access-roads-and-limited-access-policies

DAMS provides mapping of the location of limited access roads. Go to the sub heading SARA DA Mapping, then State Transport, then Limited Access Roads. The mapping is available at: https://dams.dsdip.esriaustraliaonline.com.au/damappingsystem/

3.5.3 Additional information (vehicular access to a state-controlled road)

Assessment processes

There are a number of processes by which the state regulates vehicular access to a state-controlled road:

- under section 62 of the *Transport Infrastructure Act 1994*, vehicular access to a state-controlled road (including the location and use of the access) must be approved by TMR. The department has the power to permit, amend, prohibit, or apply conditions to vehicular accesses between a state-controlled road and adjacent land.
- under the *Planning Regulation 2017* certain development applications involving vehicular access to a state-controlled road must be referred to SARA for assessment. These applications are assessed against the SDAP provisions with technical advice provided by TMR.

TMR is the decision maker for all proposals involving new or changed vehicular access to a state-controlled road, while SARA is the decision maker for development applications referred for state assessment.

TMR and SARA recognise vehicular access to a state-controlled road can affect the viability of a development proposal. Therefore, the agencies work together to ensure that decision making processes for vehicular access under the *Transport Infrastructure Act 1994* and development applications involving vehicular access under the *Planning Act 2016* are coordinated.

A development application or a change application made under the *Planning Act 2016* involving a new or changed vehicular access to a state-controlled road is also taken to be an application for vehicular access to a state-controlled road under section 62A of the *Transport Infrastructure Act 1994.* TMR will issue a decision regarding vehicular access to a state-controlled road that will be attached by SARA to its referral agency response.

Technical Guidance

- Austroads *Guide to Road Design: Part 4A Unsignalised and Signalised Intersections* is available online at: https://austroads.com.au/publications/road-design/agrd04a.
- Principal cycle network plans and priority route maps is available online at: https://www.tmr.qld.gov.au/Travel-and-transport/Cycling/Principal-cycle-network/Principal-Cycle-Network-Plans.
- *Approved Planning Policy* is available online at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Planning-and-development-assessment-under-the-Planning-Act/Approved-Planning-Policy.
- *Guide to Traffic Impact Assessment* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guide-to-Traffic-Impact-Assessment.
- *Road Planning and Design Manual* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Road-planning-and-design-manual-2nd-edition
  - Part 3: Geometric Design
  - Part 4: Intersections and Crossings – General
  - Part 4A: Unsignalised and Signalised Intersections.
- *Vehicular Access to State-controlled roads policy* is available online at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval/Vehicle-access-to-State-Controlled-Roads-policy.

What information should a development application include?

Table 5 Required technical information (vehicular access)

#	Technical Information
1	**Contextual information**, including: • the location and number of existing vehicular accesses to the state-controlled road • the proposed vehicular access location/s in relation to the state-controlled road and/or intersections with a state-controlled road • sight lines and sight distances, including safe intersection sight distances (e.g. details of safe stopping distances, driver eye height and object height, where relevant) • if the state-controlled road is a limited access road, details about how the proposed access location is consistent with the corresponding limited access policy • the location of existing public passenger and active transport infrastructure (e.g. bus stop infrastructure, bus zones, pedestrian crossings, cycle lanes and footpaths).

#	Technical Information
2	**Vehicular access design elements**, including: • proposed vehicular access location in relation to the state-controlled road • vehicle types and functions which will use the proposed access location and their frequency (e.g., service vehicles, public transport, refuse collection) • slope/gradient of the proposed vehicular access location relative to the existing state-controlled road pavement • topography of the subject site • scaled plan(s) showing existing and new site characteristics (e.g., side roads, chevrons, street signs, power/light poles, guard rail/road furnishings, service/utilities, bus stops, on street parking) • proposed drainage structures associated with the vehicular access location (e.g. invert, kerb, and channel) • proposed on-site vehicular manoeuvring areas including swept paths for turning vehicles (e.g., ingress and egress) Note: Any proposal for use of extended design domain (EDD) or design exception requires explicit approval from TMR. To avoid delays in assessing the development application, TMR's approval for a design exception should be obtained prior to lodging any development application. The design exception report approved by TMR should be provided with the development application.
3	**Supporting information,** including: • where relevant, details of lawful shared access arrangements (e.g. easement document(s)) • details of any proposed temporary vehicular access arrangements • details of any proposed temporary active transport and public transport arrangements • turn warrant assessment undertaken in accordance with the *Guide to Traffic Impact Assessment* and Austroads *Guide to Road Design: Part 4A Unsignalised and Signalised Intersections* • safety assessment of any proposed mitigation treatment. Note: an application for a vehicular access to a state-controlled road may also require the provision of a traffic impact assessment prepared in accordance with the *Guide to Traffic Impact Assessment*.

What other approvals are required?

In accordance with section 62A of the *Transport Infrastructure Act 1994,* a development application made under the *Planning Act 2016* that includes constructing or changing a vehicular access to a state-controlled road is also taken to be an application for a permitted road access location (also referred to as a 'section 62 application').

In these circumstances, the development application and section 62 application will be assessed concurrently by SARA and TMR; with two separate decision notices issued. The section 62 decision will be attached to the SARA concurrence agency response as a separate statutory approval.

After receiving a development approval and a section 62 approval, further TMR approvals are required to undertake the works and activities associated with constructing a driveway or access. This additional approval, under section 33 of the *Transport Infrastructure Act 1994,* ensures works in a state-controlled road are constructed in accordance with TMRs' technical standards and conditions. TMR approval and conditions also ensure that construction is managed for the safety of road users and construction workers.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

Further information on other approvals required by TMR are included in **Chapter 5** of this guideline.

3.6 Public passenger and active transport

Development provides an opportunity to maintain or increase the ability of people to access public passenger and active transport. Public passenger transport and active transport facilitate access to employment, education, social infrastructure, and recreational opportunities, and drives economic growth by supporting productive and successful businesses.

TMR encourages active transport as part of an integrated land use and transport system for Queensland. The department has made a commitment to make the choice to ride or walk as simple as choosing any other form of transport, improving people's wellbeing and supporting healthy and happy communities.

Integrating public passenger and active transport infrastructure with development promotes the use of these modes as an attractive, efficient and accessible travel alternative to private motor vehicles. This will provide for well-connected and liveable communities across Queensland.

3.6.1 Development interface

A development's interface with public passenger and active transport infrastructure must be designed carefully to avoid any obstruction of access to public passenger and active transport options or the creation of safety issues around infrastructure. This is to ensure that public passenger and active transport remains a viable transport option and can be safely accessed by users.

TMR's preference is for development to retain existing public passenger and active transport infrastructure in its original location where appropriate.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed site plans and supporting technical information to demonstrate that the development:

- does not encroach on or conflict with existing public passenger and active transport infrastructure
- maintains appropriate separation distances between a new or changed vehicular access and public passenger and active transport infrastructure
- does not require the relocation of public passenger and active transport infrastructure
- the design of any new or upgraded public passenger transport infrastructure is compliant with TMR's relevant design requirements, such as the *Public Transport Infrastructure Manual*
- access to public passenger and active transport infrastructure is maintained during construction, including pedestrian and cycle access
- the development does not interrupt the scheduled operation of public passenger services.

3.6.2 Educational establishment

Children are vulnerable road users. They are at risk around school areas because they are small, can't be easily seen by drivers, are more prone to running, have difficulty judging vehicle speeds and gaps and have poorer perceptive skills than adults.

The *Planning for Safe Transport Infrastructure at Schools* is a technical guideline that assists in the design and provision of effective and safe school transport infrastructure solutions in Queensland. It provides examples of best practice and practical solutions for school transport infrastructure, such as ideal pedestrian and cycling end-of-trip facilities, set-down and pick-up layouts for public transport and private vehicles, and modal separation.

The guideline can be applied to the refurbishment and upgrading of transport assets at existing schools as well as to the provision of infrastructure at new schools. It focuses on the provision of transportation system assets at and around schools, but the design process should identify operational issues and resource demands required during the operational life of the asset.

To achieve the relevant SDAP provisions:

Where a development is for an educational establishment, provide supporting technical information demonstrating compliance with the *Planning for Safe Transport Infrastructure at Schools*.

3.6.3 Additional information (Public passenger and active transport)

Technical Guidance

- *Public Transport Infrastructure Manual* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Public-transport-infrastructure-manuals
- *Planning for Safe Transport Infrastructure* at Schools is available online at: https://www.tmr.qld.gov.au/Safety/School-road-safety/Safe-school-travel-safest/School-environment-safety.

What information should a development application include?

Table 6 Required technical information (public passenger and active transport)

#	Technical Information
1	**Scaled and sufficiently detailed plans** showing the positioning and design of all existing and proposed public passenger transport infrastructure and active transport infrastructure, including pedestrian crossing arrangements between the development and public passenger transport infrastructure.

What other approvals are required?

Any works, structures, or activities within the state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.7 Network efficiency

Queensland's economic growth and liveability of communities depends on a system of road transport infrastructure that is safe, accessible, reliable and provides efficient connections between people, places, goods and services. People use the road network to access employment, education, commercial, social and recreational opportunities. The road network is also used to transport the goods and services that underpin economic growth in Queensland and which many people depend on to support their way of life.

All development generates traffic that has the potential to impact on the road network. Assessing the impacts of traffic generation on the road network is an important consideration for TMR as well as for local governments. SDAP establishes that any adverse traffic impacts need to be properly addressed to maintain the safety, efficiency and infrastructure condition of the state-controlled road network.

3.7.1 Traffic Impact Assessment

The *Guide to Traffic Impact Assessment* provides guidance on how to assess the traffic impacts of a proposed development on the state-controlled road network. This includes providing the framework for undertaking a traffic impact assessment and advice on how to avoid, manage or mitigate any potential impacts on the road network.

The *Guide to Traffic Impact Assessment* provides specific requirements to ensure that development does not have an adverse impact on:

- the safety of state-controlled roads
- state-controlled road intersections
- the operational capacity of state-controlled roads
- transport infrastructure, including bridges, culverts and drainage infrastructure
- the pavement condition of state-controlled roads.

Intersections

An increase in vehicles through an intersection, as a result of development, will increase traffic delays. These delays can have an economic and social impact on the community through increased travel times, driver impatience (leading to possible crashes) and the associated economic cost. The *Guide to Traffic Impact Assessment* outlines how development should avoid, manage and mitigate impacts to intersection delay.

Road safety

Safety is a key consideration for development interacting with the state-controlled road network. All new development may potentially affect road safety due to a range of factors, including increases in traffic volume, increases in the number of conflict points between vehicles, pedestrians and cyclists and changes to sight distances. The *Guide to Traffic Impact Assessment* establishes that development must ensure that:

- road safety is not worsened as a result of a development
- any pre-existing or development introduced safety risk is appropriately managed or mitigated.

Road link capacity

Road link capacity refers to traffic volumes on a section of state-controlled road. The *Guide to Traffic Impact Assessment* establishes that traffic generated by development must not significantly worsen the operational capacity of state-controlled road links. The guide outlines how development should avoid, manage and mitigate impacts to road link capacity.

Transport infrastructure

Development can generate traffic, including heavy vehicle movements, which can have an adverse impact on road transport infrastructure, including bridges, culverts and other structures. The *Guide to Traffic Impact Assessment* outlines how development should avoid, manage and mitigate impacts to transport infrastructure.

To achieve the relevant SDAP provisions:

Provide a RPEQ certified traffic impact assessment, prepared in accordance with the *Guide to Traffic Impact Assessment*, demonstrating that the development will not compromise the safety, operating performance or infrastructure condition of the state-controlled road network, including:

- evidence the development will result in no net-worsening of the operating performance of the state-controlled road network
- evidence the development will not increase the likelihood or severity of crashes with the potential to result in a fatality or serious injury
- evidence how any pre-existing or development introduced safety risk will be addressed
- evidence about how the development will avoid, mitigate or manage any potential adverse impacts on road transport infrastructure, including bridges, culverts and other structures
- details of mitigation works or road-use management strategies to address identified impacts.

Pavement impacts

Heavy vehicle traffic to and from a development site has the potential to damage the pavement of a state-controlled road. This is likely to occur when the number of heavy vehicles using a state-controlled road, or the loads they carry, increase significantly as a direct result of a development. Pavement impacts on certain sections of the state-controlled road network can be significant as these roads may not have been designed to accommodate the type of repetitive traffic generated by a development.

Development involving haulage exceeding 10,000 tonnes per year must ensure there is no adverse impact to the pavement of a state-controlled road. The *Guide to Traffic Impact Assessment* outlines how development should avoid, manage and mitigate impacts to the pavement of state-controlled roads.

To achieve the relevant SDAP provisions:

Provide supporting technical information demonstrating that:

- the development will not involve haulage exceeding 10,000 tonnes per year, or
- haulage associated with the development will not be transported on a state-controlled road.

If a development involves the haulage of more than 10,000 tonnes each year to or from the development site on a route that includes a state-controlled road:

- provide a pavement impact assessment certified by a RPEQ and prepared in accordance with the *Guide to Traffic Impact Assessment* (refer to **Appendix 3** for guidance on preparing a pavement impact assessment).

3.7.2 Local traffic movements

State-controlled roads facilitate the long distance movement of people and goods across the state and region(s). Local traffic movements on state-controlled roads can result in road congestion, increase travel times and reduce the overall 'efficiency' of the road. Development, including any access points and site layout, should direct traffic to the local road network where possible.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed site plans to demonstrate that the layout and design of the development directs generated traffic to the local road network.

3.7.3 Additional information (Network efficiency)

Technical Guidance

- *Guide to Traffic Impact Assessment* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guide-to-Traffic-Impact-Assessment.

What information should a development application include?

Table 7 Required technical information (network efficiency)

#	Technical Information
1	**Scaled and sufficiently detailed plans** demonstrating that the layout and design of the development directs traffic generated by the development to the local road network.
2	**Supporting technical information** such as: • traffic impact assessment prepared in accordance with the *Guide to Traffic Impact Assessment* • pavement impact assessment in accordance with the *Guide to Traffic Impact Assessment* (refer to **Appendix 3** for guidance on preparing a pavement impact assessment).

What other approvals are required?

Any works, structures, or activities within a state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR, carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.8 Planned upgrades and corridor improvements

TMR is responsible for planning and delivering a safe, efficient and integrated transport system that supports the state into the future. Inappropriate development and infrastructure has the ability to compromise this planning and the state's ability to cost effectively deliver and manage a sustainable transport network.

State code 1 provides provisions that seek to ensure that development does not undermine TMR's ability to deliver new or enhanced road infrastructure, specifically planned upgrades and corridor improvements.

3.8.1 Planned upgrades

A planned upgrade is an extension, upgrade, or duplication of state transport infrastructure or transport networks for which affected land has been identified:

- in a publicly available government document, or
- in written advice to affected land owners.

TMR's Approved Planning Policy provides the framework for establishing 'planned upgrades', including the requirements to notify relevant landowners. Planned upgrades are mapped in DAMS.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans demonstrating that the development:

- is not located on land identified for a planned upgrade, or
- will not impede the delivery of a planned upgrade, or

Provide scaled and sufficiently detailed plans demonstrating the development meets all of the following requirements:

- structures and infrastructure located on land identified as a planned upgrade can be readily relocated or removed without materially affecting the viability or functionality of the planned upgrade
- development does not involve filling and excavation of, or material changes to, land required for a planned upgrade.
- land can be reinstated to the pre-development condition at the completion of the use.

DAMS provides mapping of the location of planned upgrades. Go to the sub heading SARA DA Mapping, then State Transport, then Planned Upgrades. The mapping is available at: https://dams.dsdip.esriaustraliaonline.com.au/damappingsystem/

3.8.2 Corridor improvements

Corridor improvements are improvement activities undertaken to maintain the safety and efficiency of a state-controlled road. They are carried out within the state-controlled road by TMR and are activities which the community could reasonably expect to be undertaken in a corridor as part of continued operation of that road.

Corridor improvements include design, network and safety improvements, including (but not limited to) road widening, intersection improvements, bus infrastructure, turning lanes, footpaths, cycle routes and other design features (including medians, guardrails, tree clearing, drainage works) located entirely within the road corridor. To ensure the state can cost effectively carry out these activities when required, development, including utilities and infrastructure should not be located within a state-controlled road where practical.

Corridor improvements are different to planned upgrades. Corridor improvements are wholly contained within the road corridor where planned upgrades will often involve land owned by a third party. **Appendix 4** provides further information regarding what constitutes a corridor improvement.

If you are unsure if your proposed development will impact a corridor improvement on a state-controlled road, it is best to arrange a pre-lodgement meeting or contact your local TMR regional roads office.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans demonstrating that:

- all works associated with the development, including buildings, structures, pipework, acoustic barriers and utilities:
  - are located outside the state-controlled road
  - can be maintained without requiring access to the state-controlled road
- development does not restrict the ability of TMR to provide corridor improvements.

3.8.3 Additional information (Planned upgrades and corridor improvements)

Technical guidance

- *Approved Planning Policy* is available online at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Planning-and-development-assessment-under-the-Planning-Act/Approved-Planning-Policy.

What information should a development application include?

Table 8 Required technical information (planned corridors and corridor improvements)

#	Technical Information
1	**Scaled and sufficiently detailed plans** based on a survey of existing and proposed boundaries and features, identifying all aspects of the proposed development (buildings, structures and works and their setbacks, and existing and proposed vehicular accesses) in relation to the state-controlled road and identify any known planned upgrades.

What other approvals are required?

Any works, structures or activities within the state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.9 Filling and excavation

Filling and excavation activities can destabilise, undermine and damage road transport infrastructure and the land supporting this infrastructure through vibration impacts, ground movement, subsidence and groundwater impacts. Earthworks can also result in the removal of forces supporting or keeping infrastructure in place or the addition of forces that the infrastructure is not designed to withstand.

Filling and excavation activities include creating a level building pad, excavation for basement car parking, the installation or insertion of temporary and permanent retention systems, constructing footings for fences and building foundation structures.

3.9.1 Undermining or causing subsidence of a state-controlled road

Undertaking groundwork in a state-controlled road environment has the potential to cause undermining or subsidence of the road. Undermining or subsidence impacts can impact the structural integrity of a state-controlled road which in turn creates a safety hazard for road users.

For example, the provision of a basement carpark in proximity to a state-controlled road could undermine the structural integrity of the road. This could lead to subsidence of the road, damage to road transport infrastructure or require the state or applicant to undertake expensive rehabilitation activities to maintain the safety of the road and its users.

To achieve the relevant SDAP provisions:

Where the development is proposing filling and excavation activities in proximity to a state-controlled road or with the potential to adversely impact a state-controlled road, the applicant is to provide:

- structural engineering drawings prepared and certified by a RPEQ (refer to **Appendix 5** for guidance on preparing structural engineering drawings)
- a geotechnical assessment certified by a RPEQ and prepared in accordance with Volume 3 of the *Road Planning and Design Manual* demonstrating that filling, excavation, building foundations and retaining structures will not undermine, or cause subsidence of a state-controlled road (refer to **Appendix 6** for guidance on preparing a geotechnical assessment)
- supporting earthworks drawings prepared and certified by a RPEQ (refer to **Appendix 7** for guidance on preparing earthworks drawings).

3.9.2 Ground water disturbance

Filling and excavation activities can cause ground water disturbance in a state-controlled road environment by changing the groundwater level and/or resulting in seepage. Groundwater is the water found underground in the cracks and spaces in soil, sand and rock. Seepage is the movement of water into soil from a source.

Changes to existing groundwater levels and/or increased seepage of water in proximity to a state-controlled road can impact the structural integrity of the road and drainage infrastructure. It is important that all development involving filling and excavation activities considers the depth of groundwater and any changes that will be made to groundwater to ensure there is no impact to the state-controlled road.

To achieve the relevant SDAP provisions:

Where a development proposes filling and excavation activities, including the provision of building foundations and retaining structures, with the potential to result in ground water disturbance, provide a geotechnical assessment certified by a RPEQ and prepared in accordance with the *Road Planning and Design Manual* (refer to **Appendix 6** for guidance on preparing a geotechnical assessment).

3.9.3 Ground movement and vibration impacts

Excavation, boring, piling, blasting and fill compaction can result in ground movement or vibration impacts that cause damage or nuisance to a state-controlled road, road transport infrastructure or road works. As a result, any development and associated works that will result in ground movement or vibration impacts must demonstrate that they do not have an adverse impact on the state-controlled road or road transport infrastructure.

To achieve the relevant SDAP provisions:

Where a development is proposing excavation, boring, piling, blasting or fill compaction that has the potential to result in ground movement or vibration impacts on the state-controlled road or road transport infrastructure, provide:

- a RPEQ certified geotechnical assessment prepared in accordance with the *Road Planning and Design Manual* (refer to **Appendix 6** for guidance on preparing a geotechnical assessment).
- a vibration impact assessment in accordance with the Transport Noise Management Code of Practice, Volume 2: Construction Noise and Vibration.

3.9.4 New or changed access impacts

Filling and excavation associated with the construction of a vehicular access, if not carried out appropriately, can compromise the operation or capacity of existing drainage infrastructure for a state-controlled road. Drainage infrastructure for a state-controlled road includes culverts and table drains that are located on the roadside of a state-controlled road where an access would be constructed. Filling and excavation associated with constructing an access can alter the flow or even block the drainage of water from the surface of a state-controlled road into adjoining drainage infrastructure which creates a safety hazard for road users.

To achieve the relevant SDAP provisions:

Where a development is proposing the provision of filling and excavation associated with a new or changed access, provide scaled and sufficiently detailed plans which demonstrate the development does not adversely impact existing drainage infrastructure. These plans must identify:

- any vehicular access(es) to the development site
- any existing drainage infrastructure for a state-controlled road
- provide supporting technical information about any filling and excavation activities associated with the construction of a vehicular access, including any works or activities that have the potential to adversely impact on a state-controlled road.

3.9.5 Additional information (Filling and excavation)

Technical guidance

- *Bridge design and assessment criteria* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Bridge-design-and-assessment-criteria.
- *Geotechnical design standard* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Geotechnical-Design-Standard.
- *Road Planning and Design Manual* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Road-planning-and-design-manual-2nd-edition.
- *Transport Noise Management Code of Practice* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Transport-noise-management-code-of-practice.

What information should a development application include?

Table 9 Required technical information (filling and excavation)

#	Technical Information
1	**Scaled and detailed site plans** showing the development in relation to state-controlled road, and any services and public utilities.
2	Appropriate **supporting technical information** such as: • structural engineering drawings (refer to **Appendix 5** for guidance on preparing structural engineering drawings) • geotechnical assessment (refer to **Appendix 6** for guidance on preparing a geotechnical assessment) • earthworks drawings (refer to **Appendix 7** for guidance on preparing earthworks drawings) • vibration impact assessment (prepared in accordance with the *Transport Noise Management Code of Practice*, Volume 2: Construction Noise and Vibration).

What other approvals are required?

Any works, structures, or activities within the state-controlled road, including accessing a site for maintenance purposes, is subject to TMR approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.10 Environmental emissions - Noise

Traffic on state-controlled roads may generate noise at levels which can have adverse impacts on the health, wellbeing and quality of life of people living in proximity to these corridors. Appropriate mitigation measures can make it suitable for the community to live and work at locations close to the transport system. The environmental emissions provisions within State code 1 ensure that development impacted by traffic noise generated by state-controlled roads is designed and constructed in a way that reduces noise levels.

Development involving a sensitive use, including an accommodation activity, child care centre, educational establishment or hospital, must mitigate the noise levels generated by traffic on a state-controlled road. Applications proposing a sensitive use in proximity to a state-controlled road must demonstrate that traffic noise impacts on the proposed development can be mitigated to meet noise criteria.

State code 1 establishes the maximum noise criteria that should not be exceeded in new sensitive developments. These noise criteria ensure that individual and community health, wellbeing and amenity are protected and not adversely impacted. The noise criteria in the SDAP provisions align with TMR's *Development Affected by Environmental Emissions from Transport Policy.* The state will assess a development application in accordance with the guidance below and TMR's *Transport Noise Management Code of Practice – Volume 1*.

When designing a sensitive use, an applicant should mitigate the predicted noise levels generated by traffic on a state-controlled road for the next 10 years from the commencement of the development use. The *Transport Noise Management Code of Practice* provides direction on noise assessments and determining the road traffic noise impact for the typical 10-year horizon after completion of a development.

Noise levels from a state-controlled road or type 1 multi-modal corridor are to be measured in accordance with ***Transport Noise Management Code of Practice – Volume 1.***

3.10.1 Noise barriers and earth mounds

Noise barriers and earth mounds provide a cost-effective method of reducing road traffic noise on development. These structures provide a physical barrier designed to interrupt noise waves travelling from the road to the noise receptor.

Noise barriers and earth mounds can assist a development to meet both the external and internal noise criteria established in State code 1. The use of noise barriers and earth mounds can also reduce the cost of construction of habitable rooms by limiting the need for higher-spec materials and treatments to meet the applicable internal acoustic levels. In some circumstances the internal noise criteria will not be achievable without the use of noise barriers or earth mounds.

Where the provision of a noise barrier or earth mound is technically feasible and reasonable, it is the state's preferred method for achieving the noise criteria in SDAP.

3.10.1.1 Noise barriers and earth mounds when reconfiguring a lot

Noise barriers and earth mounds are most effective when they form a continuous barrier between the source of the noise (the road) and the development site. Gaps or breaks in a noise barrier or earth mound significantly reduces its effectiveness to block noise.

A continuous noise barrier or earth mound constructed across the full site, prior to the reconfiguration of lots, is the preferred approach of TMR and is the most cost-effective mechanism for applicants. For large scale subdivisions, the use of noise barriers and earth mounds at the stage of lot reconfiguration will benefit all lots to reduce noise impacts and reduce the cost and design impacts on future development. The addition of noise barriers and earth mounds on individual lots at a later stage of development is likely to be more costly due to scale and constructability of the smaller/reduced lot configurations and may be less effective due to 'gaps' in the barrier due to piecemeal development of the reconfigured lots.

An applicant proposing a reconfiguration of a lot is encouraged to provide a noise barrier or earth mounds to reduce the road traffic noise impacts on development and to achieve the noise criteria in State code 1.

To achieve the relevant SDAP provisions:

Where a development is proposing the provision of a noise barrier or earth mound, provide scaled and sufficiently detailed plans and a noise impact assessment report (refer to **Appendix 8** for guidance on preparing a noise assessment) that demonstrates:

- the proposed noise barrier or earth mound is designed, sited, and constructed in accordance with technical specifications
- the development will achieve the applicable building facade noise levels and free field noise levels for private open space, outdoor education areas and outdoor play areas.

3.10.2 Alternative noise attenuation measures

There may be instances where the provision of a noise barrier or earth mound is impractical (e.g. due to the topography of the land) or ineffective (e.g. where it won't result in a continuous barrier between the noise source and a sensitive development). Where it is not practical to provide a noise barrier or earth mound, an applicant may propose alternative noise attenuation approaches to achieve the noise criteria in State code 1. The *Development Affected by Environmental Emissions from Transport Policy* provides more information on these alternative approaches, including:

- separation distances/setbacks: locating buildings to provide separation from a state-controlled road
- topography: using the natural topography to prevent line of sight between the emission source and a sensitive use
- building treatments/construction materials: using building materials which mitigate the impact of environmental emissions, such as masonry walls, acoustic insulation, laminated and double-glazed windows, solid doors and window and door seals

- building design/layout: designing the internal layout of a building so that noise sensitive rooms are located furthest from the state-controlled road (for example, ensuring bedrooms and other habitable areas in a residence are placed on the side of the building furthest from the road).

To achieve the relevant SDAP provisions:

Where an applicant is proposing to use alternative noise attenuation measures, they should provide supporting information demonstrating how the development seeks to appropriately mitigate noise generated by traffic on state-controlled roads to meet the noise criteria in State code 1.

3.10.3 Balconies, podiums and roof decks

Balconies, podiums and roof decks play an important role in many designs and contribute to the useability and amenity of a development. Noise barriers and earth mounds are less likely to be effective at mitigating noise levels on elevated balconies, podiums and roof decks above the height of a barrier because the noise waves generated by traffic on a state-controlled road move upwards over a noise barrier or earth mound to these elevated settings.

Building form and design, combined with the use of appropriate building treatments and materials, can reduce noise levels generated by traffic on state-controlled roads for balconies, podiums and roof decks. Mitigation treatments can include the use of solid balustrades and highly noise absorbent soffit treatments.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans, including material specifications and a noise impact assessment report (refer to **Appendix 8** for guidance on preparing a noise assessment), that demonstrates that balconies, podiums, and roof decks exposed to noise impacts from a state-controlled road. Examples of mitigation treatments include:

- a continuous solid gap-free barrier or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia)
- highly noise absorbent material treatment for the total area of the soffit.

3.10.4 Additional information (Environmental Emissions – Noise)

What information should a development application include?

To demonstrate compliance with the State code 1, specific information about the proposed development and surrounding noise environment should be provided with an application. This will assist TMR in determining whether a development will mitigate traffic noise levels to acceptable noise criteria for occupants, including residents, visitors, workers, users and patrons.

The information to be provided with an application depends on the extent to which the proposed development is likely to be impacted by noise levels generated by traffic on a state-controlled road. TMR has sought to minimise the costs of demonstrating compliance with noise criteria by only requiring detailed noise assessment reports to be prepared where there is a medium to high probability of the development being impacted by noise from transport operations and infrastructure.

Table 10 identifies the likelihood of a development being adversely impacted by noise (based on the type and location of the proposed development) and the corresponding level of information, which should be provided with an application.

Table 10 Noise – supporting information

Probability of Impact	Development Proposed	Information Required
Low	Development involving a sensitive use located on land adjacent to a state-controlled road but not in a transport noise corridor declared under the *Building Act 1975*. Note, if no transport noise corridor is declared for the adjacent state-controlled road, applicants are required to contact a TMR district office to identify the probability of impact.	Standard information (refer to Table 11).
Medium	Development involving a sensitive use that is: • located in a transport noise corridor declared under the *Building Act 1975*, and • the level of impact does not exceed the relevant criteria listed in State code 1.	A report outlining the noise assessment findings and conclusions. (Noise assessment report - part A - refer to **Appendix 8**).
High	Development involving a sensitive use that is: • located on land in a transport noise corridor declared under the *Building Act 1975*, and • the level of impact will exceed the relevant noise criteria for the development listed in State code 1.	A report detailing the noise attenuation measures required as per the results of part A. (Noise assessment report - part A and part B - refer to **Appendix 8**).

The information listed below should be provided with an application and may be provided via a noise assessment report and include plans, photographs, specifications and technical materials, or a combination.

Table 11 Required technical information (noise)

#	Technical Information
1	**LOW IMPACT DEVELOPMENT** Scaled and detailed site plans showing: • the type of development proposed (e.g. whether the development is a sensitive use) • the intensity of development proposed (e.g. maximum floor area, maximum building height) • the location of development on the subject site including lot layout(s) (e.g. building envelopes) • building layouts showing sensitive areas, their uses, and the distance from a state-controlled road • contours for the subject site and transport corridor showing any physical embankments / buildings / existing noise barriers located between the state-controlled road and the proposed buildings • the volume of traffic using the state-controlled road daily (this can be obtained from TMR).
2	**MEDIUM IMPACT DEVELOPMENT** An application should be supported by a noise assessment report part A, prepared by an appropriately qualified acoustic consultant, and certified by a RPEQ, demonstrating the applicable noise criteria will not be exceeded and therefore no attenuation measures are required. Where the noise assessment report - part A demonstrates the applicable noise criteria will be exceeded, a noise assessment report part B will need to be prepared (refer to **Appendix 8** for guidance on preparing a noise assessment**)**.
3	**HIGH IMPACT DEVELOPMENT** An application should be supported by a noise assessment report part A and part B, prepared by an appropriately qualified acoustic consultant, and certified by a RPEQ, demonstrating the noise attenuation treatments to ensure that noise levels are reduced to comply with the applicable noise criteria level (refer to **Appendix 8** for guidance on preparing a noise assessment).

Interaction with the Queensland Development Code for building in a transport noise corridor

The *Queensland Development Code Mandatory Part 4.4 - Building in a transport noise corridor* (QDC MP4.4) addresses internal noise impacts on residential development within a transport noise corridor. The QDC 4.4 applies to all building work for habitable rooms of Class 1, 2, 3 and 4 buildings where they are part of a *relevant residential building*.

The *State Planning Policy* Interactive Mapping System can be used to determine if a property is in a designated transport noise corridor.

It is important for applicants to note and understand that:

- QDC MP4.4 is administered under the *Building Act 1975.*
- QDC MP4.4 only applies to a building application and not to a development application.
- Compliance with QDC MP4.4 does not address the state's requirement to comply with the SDAP provisions.

The State Planning Policy Interactive Mapping System provides mapping of the location of Transport Noise Corridors. Go to the sub heading Information Purposes, then Transport Infrastructure. The mapping is available at: https://spp.dsdip.esriaustraliaonline.com.au/geoviewer/map/planmaking.

Technical guidance

- *Development Affected by Environmental Emissions from Transport Policy* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Development-on-Land-Affected-by-Environmental-Emissions.
- *Transport Noise Management Code of Practice – Volume 1* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Transport-noise-management-code-of-practice.

What other approvals are required?

Any works, structures, or activities within the state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.11 Environmental emissions - Vibration

Traffic on State-controlled roads has the potential to generate vibration which can have an adverse impact on the treatment of patients in hospitals. SDAP's vibration provisions seek to ensure that patient care and treatment areas in hospitals are located, designed and constructed to minimise their exposure to adverse vibration impacts generated by traffic on state-controlled roads and road transport infrastructure.

To achieve the vibration criteria in SDAP, development proposing the provision of a hospital should ensure the building design, construction materials and treatments protect patient care areas and patient treatment areas from vibration impacts originating from traffic on state-controlled roads and infrastructure.

To achieve the relevant SDAP provisions:

Provide scaled and sufficiently detailed plans and a RPEQ certified vibration assessment report that demonstrates the development meets the vibration criteria in SDAP:

- vibration dose values in patient treatment areas do not exceed $0.1m/s^{1.75}$
- that vibration dose values in the ward of a patient care area do not exceed $0.4m/s^{1.75}$.

3.11.1 Additional information (Environmental Emissions – Vibration)

What information should a development application include?

Table 12 Required technical information (vibration)

#	Technical Information
1	A RPEQ certified vibration assessment report which demonstrates vibration in patient care areas of hospitals does not exceed the vibration criteria specified in the acceptable outcomes. If an application does not comply with the acceptable outcome, details of the alternative means of minimising vibration impacts from state-controlled roads in patient care areas is to be provided.

Technical guidance

- *Development Affected by Environmental Emissions from Transport Policy* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Development-on-Land-Affected-by-Environmental-Emissions.

What other approvals are required?

Any works, structures, or activities within the state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

3.12 Environmental emissions – Air and light

Air and light emissions originating from a state-controlled road can have adverse impacts on the health, wellbeing and quality of life of people living and working in proximity to the road. To demonstrate compliance with the air and light SDAP provisions, development should be located, designed, and constructed to reduce or mitigate the community's exposure to air and light emissions generated by traffic on state-controlled roads and road transport infrastructure. This will include ensuring that each dwelling or unit has access to a private open space shielded from the state-controlled road, although not all private open space needs to be shielded.

The design and siting of a development should mitigate light impacts originating from a state-controlled road to avoid any unreasonable disturbance for occupants during evening hours. The appropriate use of internal treatments and materials, as well as building design and layout, may be suitable to achieve the relevant SDAP provisions.

To achieve the relevant SDAP requirements

Provide scaled and sufficiently detailed plans and supporting technical information that demonstrates:

- private open space, outdoor education areas and outdoor play areas are appropriately shielded from light originating from a state-controlled road
- windows and transparent or translucent panels facing a state-controlled road are minimised or the provision of design solutions or treatments; this may include blinds or curtains that enable light from a state-controlled road to be blocked during night-time hours.

3.12.1 Additional information (Environmental Emissions – Air and light)

What information should a development application include?

To demonstrate compliance with the SDAP provisions, the below information should be provided with an application. This may include the provision of an assessment report, plans, photographs, technical specifications or a combination. This will assist the state in determining whether the development can mitigate air and light impacts to acceptable levels for occupants.

Table 13 Required technical information (air)

#	Technical Information
1	**ACCOMMODATION ACTIVITIES** A site plan which clearly identifies the outdoor space for passive recreation for each dwelling and any shielding buildings and structures. Structural design or information which demonstrates that a fence or other structure provided to shield the outdoor space is solid and gap-free.
2	**EDUCATIONAL ESTABLISHMENTS AND CHILD CARE CENTRES** A site plan which clearly identifies the location of all outdoor education areas and/or outdoor play areas and any shielding buildings and structures. Structural design or information which demonstrates that a fence or other structure provided to shield the outdoor space is solid and gap-free.

Table 14 Required technical information (light)

#	Technical Information
1	Building layout plans and designs demonstrating that the number of windows or transparent/translucent panels facing a state-controlled road have been minimised or any windows facing a state-controlled road include treatments, such as screening, blinds or curtains that enable light from a state-controlled road to be blocked during the night. Design, product specifications or material demonstrating windows facing a state-controlled road include treatments, such as screening, blinds or curtains that enable light from a state-controlled road to be blocked during the night.

Technical guidance

- *Development Affected by Environmental Emissions from Transport Policy* is available online at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Development-on-Land-Affected-by-Environmental-Emissions.

What other approvals are required?

Any works, structures, or activities within the state-controlled road, including accessing a site for maintenance purposes, is subject to TMR's approval processes under the *Transport Infrastructure Act 1994*. A separate application to a development application will be required and the works structures or activity will require approval from TMR. Further information on the other approvals required by TMR are included in **Chapter 5** of this guideline.

A development approval does not authorise construction of works in a state-controlled road corridor. A person must not, without lawful excuse or written approval from TMR carry out road works on a state-controlled road or interfere with the road or its operation. Penalties apply in accordance with section 33 of the *Transport Infrastructure Act 1994*. Additionally, a person causing damage to a state-controlled road may be liable for the cost of repairs in accordance with section 48 of the *Transport Infrastructure Act 1994*.

4. Development in a future state-controlled road environment

TMR is responsible for planning future transport infrastructure to meet the needs of the community as cost effectively as possible. Inappropriate development on land that has been identified as a future state-controlled road can affect the state's ability to achieve this objective. Examples of inappropriate development includes:

- the construction of permanent and/or large-scale buildings and structures which must be demolished to construct transport infrastructure
- the intensification of land in a future state-controlled road which can increase the state's acquisition costs
- the provision of operational works which can destabilise land – this can result in the land no longer being able to support transport infrastructure or require considerable work to re-stabilise to ensure it can support transport infrastructure
- impacts from development, such as stormwater runoff and groundwater seepage, can result in costly engineering solutions to ensure the safety and structural integrity of transport infrastructure constructed on the land.

Land required for a future state-controlled road is identified in DAMS.

DAMS provides mapping of the location of future state-controlled roads. Go to the sub heading SARA DA Mapping, then State Transport, then Future State Transport Corridor, then Future State-controlled road. The mapping is available at: https://dams.dsdip.esriaustraliaonline.com.au/damappingsystem/.

4.1 General development in future state-controlled road environment

Structures (including temporary structures), buildings, infrastructure, services, utilities and landscaping located in a future state-controlled road may impede the delivery of road transport infrastructure by making it costly to reinstate a site to its pre-development condition. In addition, temporary hardstand or stockpiling of materials in a future state-controlled road have the potential for land contamination.

Furthermore, the intensification of lots within a future state-controlled road and the landlocking of parcels once the road is delivered can result in additional cost to the state to deliver road infrastructure. As a result, development must demonstrate that it will not impede the delivery of a future state-controlled road or associated infrastructure.

To achieve SDAP requirements:

Provide scaled and sufficiently detailed plans and supporting technical information that demonstrates:

- all aspects of the proposed development (including buildings, structures, services, utilities, infrastructure and works and their setbacks) in relation to the future state-controlled road
- boundaries of the future state-controlled road in relation to the site boundaries
- supporting information detailing which buildings, structures or works are temporary, including information on when and how structures will be removed from the site or demolished
- supporting information demonstrating how TMR's future infrastructure has been considered in the site layout of the development.

4.1.1 Additional information (General development in a future state-controlled road environment)

What information should a development application include?

Table 15 Required technical information (general development in a future state-controlled road environment)

#	Technical Information
1	Scaled and sufficiently detailed plans clearly showing: • all aspects of the proposed development (buildings, structures, services, utilities, infrastructure and works and their setbacks) in relation to the future state-controlled road • boundaries of the future state-controlled road in relation to the site boundaries.
2	Supporting information detailing which buildings, structures or works are temporary, including information on when and how structures will be removed from the site or demolished.
3	Supporting information demonstrating how TMR's future infrastructure has been considered in the site layout of the development.

4.2 Other works in a future state-controlled road environment

4.2.1 Vehicular access in a future state-controlled road environment

Vehicular access impacts of development are the same for an existing state-controlled road and a future state-controlled road. Please refer to **Chapter 3.4** (Vehicular access) of this guideline for further information on how to achieve the future state-controlled road vehicular access provisions.

4.2.2 Filling and excavation in a future state-controlled road environment

Filling and excavation impacts of development are the same for an existing state-controlled road and a future state-controlled road. Please refer to **Chapter 3.8** (Filling and excavation) of this guideline for further information on how to achieve the future state-controlled road filling and excavation provisions.

4.2.3 Stormwater, flooding, drainage infrastructure and overland flow impacts in a future state-controlled road environment

Stormwater, flooding, drainage infrastructure and overland flow impacts of a development are the same for an existing state-controlled road and for a future state-controlled road. Please refer to **Chapter 3.3** (Stormwater, flooding, drainage infrastructure and overland flow) of this guideline for further information on how to achieve the future state-controlled road stormwater, flooding, drainage and overland flow provisions.

5. Other approvals required in a state-controlled road environment

This section provides information for applicants on additional processes and approvals associated with works, structures or activities in a state-controlled road environment that are required outside of the *Planning Act 2016*. Development in a state-controlled road environment often involves construction works, structures or activities that occur on or over a state-controlled road. These works can impact the operation of state-controlled roads or interact with road transport infrastructure and are therefore regulated under the *Transport Infrastructure Act 1994*, with separate approvals and requirements to those required under the *Planning Act 2016*.

It is recommended that applicants seek pre-lodgement advice from local and state government agencies early in the project planning stages to develop an understanding of the matters to be addressed in a development application and any approvals required outside of the *Planning Act 2016*. Early discussions will help identify additional requirements or approvals under transport legislation which will assist in streamlining the assessment process.

Applicants may also be required to enter into an agreement with TMR if the project requires access to a state-controlled road. For example, establishing an electricity transmission route, grid connection or undertaking maintenance.

5.1 Owner's consent

TMR holds the perpetual lease over state-controlled roads on behalf of the Queensland Government. As such, TMR is the 'owner' of the land on which state-controlled roads are built. This includes state toll roads (such as the Gateway Motorway and Logan Motorway) that are owned by the state government but sub-leased to toll road operators on behalf of the state.

Any development application that is wholly or partly within a state-controlled road, land owned or administered by TMR, or requires temporary or permanent access to a state-controlled road must be accompanied by the written consent of TMR.

Further information regarding obtaining TMR's owner's consent can be found online at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Planning-and-development-assessment-under-the-Planning-Act/Assessable-development/Owners-consent-dept-land.

5.2 National heavy vehicle access permit

If vehicles associated with a development exceed a certain length, height or mass, applicants will need to obtain a heavy vehicle permit from the National Heavy Vehicle Regulator (NHVR). This is separate to the approval process under the *Planning Act 2016*. It is recommended applicants liaise with the NHVR early in the project planning process to streamline project commencement.

Further information regarding heavy vehicle access permits can be found on the NHVR website: https://www.nhvr.gov.au.

5.3 Other department and agency approvals

Works, structures or activities in a state-controlled road environment may require additional approvals from other agencies or departments (e.g., the clearing of vegetation). These approvals may be required before works or activities can commence. Applicants are responsible for obtaining all necessary or related approvals. Further information can be obtained directly from the relevant department or agency.

5.4 Approval to carry out works under the Transport Infrastructure Act 1994

5.4.1 Road works

Under section 33 of the *Transport Infrastructure Act 1994,* a person must not carry out road works, undertake activities or interfere with a state-controlled road or its operation unless they have obtained the written approval of TMR (a 'road works approval'). All road access works (including a driveway) must be constructed in accordance with TMR standards for road access works and located at a permitted road access location. Construction must be managed to ensure no adverse safety impacts for road users and construction workers.

The information required by TMR to assess an application for road works will depend upon the size and scale of the proposal. In all cases, detailed design of the road works consistent with the conditions of approval, conforming to the requirements of the *Road Planning and Design Manual* and certified by a RPEQ, will be necessary.

Where road access works pose a safety risk to road users, approval may be conditional upon providing TMR a traffic management plan before construction begins. Depending upon the nature of the works proposed, TMR may require a performance bond to ensure the works are completed as required. These conditions will be included in the road access works approval. When all conditions of the road access approval have been fulfilled, TMR will issue an authority to commence construction and work may begin.

Before construction can begin, TMR may also require:

- a meeting onsite prior to the start of construction
- the proposed timing and duration of works
- an indemnity signed by the contractor
- a performance bond
- a traffic management plan.

Further information about obtaining a road works approval is available at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval.

5.4.2 Ancillary works and encroachments

A person must not construct, maintain, operate or conduct ancillary works and encroachments (AWEs) on a state-controlled road without TMR's written approval in accordance with section 50 of the *Transport Infrastructure Act 1994*. An AWE is a structure or other thing, other than public utilities, on, over or under a road; or an activity conducted on, over or under the road, other than travelling or grazing an animal under a permit issued under the *Stock Route Management Act 2002*. Examples of AWEs include advertising devices, pipes, cables, or footpath dining.

Applicants seeking to undertake an AWE within a state-controlled road must apply for a road corridor permit. Specifically, applicants must complete a road corridor permit application form which is available from TMR regional roads offices or lodge an application online at: https://rcp.tmr.qld.gov.au/.

An application should include plans or specifications and other supporting information such as public liability insurance.

Further information about road corridor permits is available at: https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval/Road-Corridor-Permit.

5.5 Safety and risk

5.5.1 Safety requirements for works in a state-controlled road environment

The safety of road operations and workplace health and safety in the state-controlled road environment is paramount. Any arrangements for work within a state-controlled road, including temporary access during construction, must meet TMR's safety and operational requirements. All reasonable costs incurred by TMR in managing safety issues will need to be met by the applicant.

Applicants must liaise with TMR prior to works commencing to ascertain safety requirements. Please contact your local TMR regional roads office for enquiries or assistance.

5.5.2 Traffic control permit

A traffic control permit is required if lane closures and/or traffic control activities are required to be undertaken on a state-controlled road. This is to ensure:

- that the work carried out, or the conducted event, can be performed safely with due care shown to both workers and all road users
- protection of departmental assets
- the times at which the task is to be performed is such that any lane closure causes minimal disruption to traffic flow.

Further information about obtaining a traffic control permit is available at:
https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Traffic-control-permit.

5.5.3 Rectification of works

In accordance with section 48 of the *Transport Infrastructure Act 1994*, TMR may seek to recover the cost of repairing any damage caused by road works or ancillary works and encroachments on a state-controlled road.

5.6 Agreements

5.6.1 Transport infrastructure agreements and arrangements

Where works require modification to a state-controlled road or road transport infrastructure, the written approval of TMR must first be obtained. In considering any request for such an approval, TMR may recommend that the applicant enter into a transport infrastructure agreement or arrangement. The scope of a transport infrastructure agreement or arrangement must be consistent with items set out under Chapter 6 of the *Transport Infrastructure Act 1994*.

TMR encourages applicants to discuss the possibility of entering into a transport infrastructure agreement or arrangement with TMR early in the development process. Please contact your local TMR regional roads office for enquiries or assistance.

5.7 Removal of materials on a state-controlled road

Under section 47 of the *Transport Infrastructure Act 1994*, it is an offence for a person to damage, remove or interfere with any resource on a state-controlled road without a lawful excuse. A lawful excuse would be an approval issued from the relevant state agency that owns the resource. A person will generally also be required to obtain a road corridor permit or road works approval to enter a state-controlled road to undertake any works.

Generally, resources in a state-controlled road consist of:

- naturally occurring materials
- stockpiles of materials
- watercourses
- road works
- ancillary works and encroachments.

5.8 Contact details

5.8.1 TMR regional roads offices

Please contact your local TMR regional roads office for development application enquiries or assistance lodging a road works request.

To find your local office, please phone 132 380 or see https://www.qld.gov.au/transport/contacts/roads.

5.8.2 General enquiries

The Director, Corridor Management and Protection

State-wide Transport Planning Management

Transport Strategy and Planning Branch

Planning, Policy and Investment Division

Department of Transport and Main Roads

Email: planningpolicy@tmr.qld.gov.au

6. Glossary of terms

Term	Definition
Accommodation activities	means any of the following: 1. caretaker's accommodation; 2. community residence; 3. dual occupancy; 4. dwelling house; 5. dwelling unit; 6. multiple dwelling; 7. relocatable home park; 8. residential care facility; 9. resort complex; 10. retirement facility; 11. rooming accommodation; 12. short-term accommodation; 13. tourist park; 14. a development with a combination of uses 1 to 13.
Active transport	means physical activity undertaken as a means of transport from one place to another, including but not limited to the following: 1. cycling; 2. walking; 3. cycling or walking to a place to access public passenger transport, or from a place after public passenger transport has been used.
Active transport infrastructure	means infrastructure for use in connection with active transport, including: 1. a path or walkway for use by pedestrians; 2. a path, lane, or other infrastructure for use by cyclists; 3. a device or facility designed and constructed for parking bicycles.
Alternative noise attenuation measures	means a design outcome that: 1. meets the relevant acoustic criteria in SDAP, as demonstrated by a Noise Assessment Report, prepared by an appropriately qualified acoustic consultant, and certified by a RPEQ; 2. is in accordance with the applicable structural, engineering and design requirements.
Annual exceedance probability (AEP)	means the probability that a given condition, such as rainfall total accumulated over a given duration or flow rate, will be exceeded in any one year.
Ancillary works and encroachments	refer to *Transport Infrastructure Act 1994*, schedule 6. for a road, means: 1. a structure or other thing, other than public utility plant, on, over or under the road; or *Examples of structures or other things—* an advertising device, an A-frame board, a bridge, a pipeline, a remotely piloted aircraft, a rest area, a tunnel, an underpass 2. an activity conducted on, over or under the road, other than travelling or grazing an animal under a permit issued under the *Stock Route Management Act 2002*. *Examples of an activity —* a community event, roadside vending. Also refer to https://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval/Road-Corridor-Permit#works for further guidance and list of ancillary works and encroachments types.

Term	Definition
Childcare centre	refer to the *Planning Regulation 2017*, schedule 24. means the use of premises for the care, education, and minding, but not residence, of children. *Examples of a childcare centre—* before or after school care, crèche, early childhood centre, kindergarten, vacation care
Corridor improvements	means improvement activities within the road corridor and carried out by TMR. Corridor improvements include design, network, and safety improvements, including (but not limited to) road widening, intersection improvements, bus infrastructure (including bus stops), turning lanes, footpaths, cycle routes and other design features (including medians, guardrails, tree clearing, drainage works etc.) located entirely within the road corridor.
DAMS (Development Assessment Mapping System	means the mapping system containing the Geographic Information System mapping layers kept, prepared, or sourced by the state that relate to development assessment and matters of interest to the state in assessing development applications.
Development	refer to the *Planning Act 2016*, schedule 2. means: 1. carrying out — a. building work; or b. plumbing or drainage work; or c. operational work; or 2. reconfiguring a lot; 3. making a material change of use of premises.
Educational establishment	refer to the *Planning Regulation 2017*, schedule 24. means the use of premises for: 1. training and instruction to impart knowledge and develop skills; or 2. student accommodation, before or after school care, or vacation care, if the use is ancillary to the use in paragraph 1. *Examples of an education establishment—* college, outdoor education centre, primary school, secondary school, special education facility, technical institute, university
Functional requirement	means the state-controlled road serves as an effective and efficient route for through-traffic. This applies to all relevant road users including road freight vehicles, public passenger transport and active transport. Note: Functional requirements is a term used in the Vehicular Access Policy. The Vehicular Access Policy sets out four strategies to ensure a vehicular access is consistent with the functional requirements of the state-controlled road.
Future intent	relates to the state's investment in the transport network, including the road network and infrastructure, to ensure that a road operates as intended for all road users including public passenger transport or active transport. This includes infrastructure in the corridor: 1. footpaths and cycling infrastructure; 2. drainage (kerb and channel, stormwater infrastructure); 3. public utilities (electricity, gas, telecommunications, water, and sewerage infrastructure); 4. bus infrastructure (including bus stops). Note: Future intent is a term used in the Vehicular Access Policy. The Vehicular Access Policy sets out three strategies to ensure vehicular access is consistent with the current or planned intent for the road corridor and the state-controlled road network.
Future state-controlled road	means a road or land that the chief executive administering the *Transport Infrastructure Act 1994* has, by written notice given to a local government and published in the gazette, indicated is intended to become a state-controlled road under section 42 of that Act.

Term	Definition
Habitable room	see the *Building Code of Australia*. Note: Habitable room means a room used for normal domestic activities, and – 1. includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom; but 2. excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.
Hospital	see schedule 24 of the *Planning Regulation 2017*. Note: Hospital means the use of premises for: 1. the medical or surgical care or treatment of patients, whether or not the care or treatment requires overnight accommodation; or 2. providing accommodation for patients; or 3. providing accommodation for employees, or any other use, if the use is ancillary to the use in paragraphs 1 or 2.
Indoor education area	means an enclosed area within a childcare centre or educational establishment intended for use for the training or teaching of people including a classroom, lecture hall/theatre and library.
Indoor play area	means an enclosed area within a childcare centre or educational establishment intended for use for children's play. This term excludes functional areas such as bathrooms, food preparation areas, washing facilities and other spaces of a specialised nature.
LAR1	means a limited access road mapped in DAMS as a LAR1 and supported by a limited access policy. The limited access policy for LAR1 (or section(s) of road identified as LAR1) do not allow for any new or changed direct access to the limited access road.
LAR2	means a limited access road mapped in DAMS as LAR2 and supported by a limited access policy. The limited access policy for LAR2 (or sections of a road identified as LAR2) may permit new or changed access to the limited access road.
Lawful point of discharge	see the Queensland Urban Drainage Manual 2016. Note: Lawful point of discharge means a point of discharge of stormwater from premises that is considered to satisfy the requirements specifically outlined within the Queensland Urban Drainage Manual, 2016. See section 3.9 of the Queensland Urban Drainage Manual, 2016, for further information.
Limited Access Road	refer to the *Transport Infrastructure Act 1994*. means a state-controlled road, or part of a state-controlled road, declared to be a limited access road under section 54 of the *Transport Infrastructure Act 1994*.
Limited Access Policy	refer to the *Transport Infrastructure Act 1994*. means a policy for a limited access road prepared under section 54(4) of the *Transport Infrastructure Act 1994*. A limited access policy can be obtained by contacting the relevant TMR regional roads office.
Local road	means a road controlled by a local government authority

Term	Definition
New or changed access	refer to the *Planning Regulation 2017*, schedule 24. new or changed access between premises and a road or state transport corridor means: 1. the use of a new location as a relevant vehicular access between the premises and the road or corridor, or 2. the construction of a new relevant vehicular access between the premises and the road or corridor 3. the extension of an existing relevant vehicular access between the premises and the road or corridor *For example* – widening a driveway to allow access by a wide-turning vehicle 4. an increase in the number of vehicles regularly using an existing relevant vehicular access between the premises and the road or corridor 5. a change in the type of vehicles regularly using an existing relevant vehicular access between the premises and the road or corridor.
No net worsening	means the current and forecast characteristics of the transport network are not significantly worse with the development than the current and forecast characteristics existing without the development in the impact assessment area. No net worsening takes proposed mitigation measures into consideration. Note: See Principle 2 of *Guide to Traffic Impact Assessment*
Outdoor education area	means outdoor areas intended for use for the training or teaching of persons. This term does not include playgrounds or outdoor sport and recreational areas.
Outdoor play area	see SDAP. Note: Outdoor play area means an unenclosed area located outside the external walls of the building. This term only includes playgrounds/play areas in a childcare centre or educational establishment.
Patient care area	see the Building Code of Australia. Note: Patient care area means a part of a healthcare building normally used for the treatment, care, accommodation, recreation, dining and holding of patients including a ward area and treatment area. A ward area means that part of a patient care area for resident patients and may contain areas for accommodation, sleeping, associated living and nursing facilities. A treatment area means an area within a patient care area such as an operating theatre and rooms used for recovery, minor procedures, resuscitation, intensive care, and coronary care from which a patient may not be readily moved.
Planned upgrade	means an extension, upgrade, or duplication of state transport infrastructure or transport networks for which affected land has been identified: 1. in a publicly available government document; or 2. in written advice to affected land owners. Note: Government documents are Commonwealth, state or local government documents that include a statement of intent for, or a commitment to, a planning outcome or infrastructure provision. See DAMS.
Private open space	means an on-site outdoor space for the exclusive use of occupants of a dwelling.
Public passenger service	refer to *Transport Operations (Passenger Transport) Act 1994*, schedule 3. means a service for the carriage of passengers if: 1. the service is provided for fare or other consideration; or 2. the service is provided in the course of a trade or business (but not if it is provided by an employer solely for employees); or 3. the service is a courtesy transport service or community transport service; and includes a driver service but does not include a service excluded from this Act by a regulation.

Term	Definition
Public passenger transport	refer to *Transport Planning and Coordination Act 1994*, section 3. means the carriage of passengers by a public passenger service using a public passenger vehicle.
Public passenger transport infrastructure	refer to *Transport Planning and Coordination Act 1994*, section 3. means infrastructure for, or associated with, the provision of public passenger transport, including, but not limited to: 1. a transit terminal for public passenger services (for example, an airport terminal, a coach terminal, a cruise ship terminal); or 2. a ferry terminal, jetty, pontoon or landing for ferry services; or 3. a bus stop, bus shelter, bus station or bus lay-by; or 4. a busway station; or 5. a light rail station; or 6. a taxi rank; or 7. a railway station; or 8. vehicle parking and set-down facilities; or 9. pedestrian and bicycle paths and bicycle facilities; or 10. a road on which a public passenger service operates.
Relevant residential building	see section 6 of the Queensland Development Code Mandatory Part 4.4: Buildings in a Transport Noise Corridor. Note: A building is a relevant residential building if: 1. a building development application for the construction of the building is made after 31 August 2010; and 2. the building: a. is a class 1, 2, 3 or 4 building; and b. is located in a transport noise corridor; and c. is not a relocated building; and 3. the building development approval for the construction of the building was not given under the building assessment provisions in force immediately before 1 September 2010, under section 37 of the *Building Act 1975*.
Relocated building	see section 7 of Queensland Development Code Mandatory Part 4.4: Buildings in a Transport Noise Corridor. Note: A building is a relocated building if the building: 1. is a class 1, 2, 3 or 4 building; and 2. was constructed on an allotment (the first allotment) where it was used as a residence; and 3. is relocated from: a. the first allotment to another allotment; or b. a site on the first allotment to another site on the first allotment.

Term	Definition
Residential lots	means lots created with the intention of being used for one or more of the following uses: 1. caretaker's accommodation; 2. a community residence; 3. a dual occupancy; 4. a dwelling house; 5. a dwelling unit; 6. a home-based business; 7. a multiple dwelling; 8. non-resident workforce accommodation; 9. a relocatable home park; 10. a residential care facility; 11. a resort complex; 12. a retirement facility; 13. rooming accommodation; 14. rural workers' accommodation; 15. short-term accommodation; 16. a tourist park.
Retaining structures	means retention structures and systems such as walls, batters, anchors, bolts, soil nails, shoring, piles, piers, beams, and similar structures.
Road transport infrastructure	Refer to the *Transport Infrastructure Act 1994*, schedule 6 Means transport infrastructure relating to roads.
Road works	Refer to the *Transport Infrastructure Act 1994*, schedule 6 For chapters 6 and 15A, means: 1. works done for: a. establishing or constructing roads or things associated with roads; or b. maintaining roads or things associated with roads (other than public utility plant); or c. facilitating the operation or safety of road transport infrastructure; or d. establishing, constructing, or maintaining road transport infrastructure, other than road transport infrastructure if the works are: i. directly related to an activity mentioned in subparagraph a, b and c; and ii. necessary for the safety, efficiency, operation, or structural integrity of transport infrastructure, or 2. road access works; or 3. works declared under a regulation to be road works.
Registered Professional Engineer of Queensland (RPEQ)	Registered Professional Engineer of Queensland, under the *Professional Engineers Act 2002*.
Solid gap free fence	means a noise reducing fence that: 1. is a structurally fit for purpose fence; 2. a minimum of 1.8m in height; 3. built along the boundary with a state transport corridor; 4. made from materials with sound attenuating properties, limited to concrete blocks or bricks or fibre cement sheeting; 5. has no clearance gap at panel junctions, connections and under the fence (excluding gaps required for drainage purposes to comply with the Building Code of Australia); 6. has a return where the fence is not adjoining a solid gap free fence or solid gap free structure.

Term	Definition
Solid gap free structure	means a noise reducing structure that: 1. is structurally fit for purpose structure; 2. a minimum of 1.8 metres in height for a structure at ground level; 3. built along the boundary with a state transport corridor for a structure at ground level; 4. is made from materials with sound attenuating properties, limited to glass, or concrete blocks, or bricks or fibre cement sheeting; 5. has no clearance gap at panel junctions, connections and under the structure (excluding gaps required for drainage purposes to comply with the Building Code of Australia); 6. has a return where the fence is not adjoining a solid gap free fence or solid gap free structure.
State-controlled road	Refer to the *Transport Infrastructure Act 1994*, schedule 6. Means a road or land, or part of a road or land, declared under section 24 of the *Transport Infrastructure Act 1994* to be a state-controlled road, and for chapter 6, part 5, division 2 of *Transport Infrastructure Act 1994*. Note: The declaration process for a state-controlled road involves publishing the details of the location of the road in a Queensland Government Gazette notice. This declaration includes information about the starting and ending point of the road, the alignment of the road, and the width of the road by reference to the constructed centre line of the road pavement or surface. DAMS usually shows the location of the state-controlled road based on the information in the declaration, however if there is a discrepancy between DAMS and the state-controlled road declaration in the Government gazette, the declaration takes precedence.
State transport corridor	refer to the *Planning Regulation 2017*, schedule 24. means: 1. a busway corridor; or 2. a light rail corridor; or 3. a railway corridor; or 4. a state-controlled road.
Structure	means any built structure as well as retaining structures.
Structural integrity	means the retention of the infrastructure's physical condition over time. This avoids an element of the structure breaking or malfunctioning causing the structure itself to fail, sooner than expected.
Transport noise corridor	see chapter 8B the *Building Act 1975*. Note: Transport noise corridor means land designated under chapter 8B of the *Building Act 1975* as a transport noise corridor.
Type 1 multi-modal corridor	means a transport corridor that includes a state-controlled road and at least one of the following: 1. a busway; or 2. light rail; or 3. a railway with 15 or fewer passing trains per day.
Works	refer to *Transport Infrastructure Act 1994*, schedule 6. Works includes activities.

Appendix 1 – Basic stormwater information

Basic stormwater information (including a suitable scaled drawing) must include the following:

- Existing site topography/levels - contour information can be sourced from the relevant local government or prepared by a registered surveyor.
- Proposed finished levels for the proposed development.
- Information verifying whether the subject site is flood prone - flood searches and mapping can often be obtained from the relevant local government.
- Existing drainage infrastructure on the subject site and in the immediate surrounding area. For example, culverts or kerb and channel in surrounding roads. This should include the location of all natural and constructed drainage features such as pits, culverts, open channels, drains, detention or retention basins as well as gullies, wetlands, waterways and the like. This information is best provided in the form of a Site Detail and Contour Survey prepared by a registered surveyor.
- Proposed drainage infrastructure to be provided by the development. This will include any devices such as pipes, downpipes, pits, detention basins, tanks and drains that are proposed to be used to manage stormwater and connect it to the proposed point of discharge. The location where stormwater is proposed to be discharged should be clearly identified, preferably by a RPEQ certified drawing showing the proposed stormwater drainage design for the development with associated hydraulic calculations.
- Proposed increase in impervious area of the subject site as a result of the development. This will include the location and extent of any proposed hardstand or sealed surfaces. This should be clearly illustrated on the architectural drawings showing the proposed development.

Appendix 2 – Stormwater management plan and flood impact assessment

Stormwater management plan

A stormwater management plan (water quantity and quality) should be prepared and certified by a RPEQ and assess the potential stormwater and flooding impacts on the state-controlled road, including road transport infrastructure, because of the proposed development and recommend appropriate mitigation measures.

A stormwater management plan should:

- Be prepared in accordance with the relevant performance outcomes of SDAP and in accordance with the *Queensland Urban Drainage Manual.*
- Demonstrate that the management of stormwater (quantity and quality) post-development can achieve a no worsening impact (on the pre-development condition) for all flood and stormwater events up to a 1% AEP (equivalent to 1/100 year Average Recurrence Interval (ARI)).
- Demonstrate that the stormwater management for the proposed development can ensure no worsening impact or actionable nuisance to the state-controlled road, including road transport infrastructure, caused by peak discharges, flood levels, frequency/duration of flooding, flow velocities, water quality, sedimentation, and scour effects.
- Include details of the mitigation measures proposed to address any potential stormwater impacts (including flooding impacts) of the proposed development. The design flood peak discharges should be shown for the mitigated case to demonstrate there is no worsening impact on the state-controlled road.
- Incorporate appropriate hydraulic and hydrological analysis demonstrating:
    - Design flood peak discharges, levels and velocities for the site and surrounding area which exist prior to the development for all flood and stormwater events up to a 1% AEP (equivalent to 1/100 year ARI). This should include at least the following flood and stormwater events: 63%, 39%, 18%,10%, 5%, 2% and 1% AEP (equivalent to 1, 2, 5, 10, 20, 50 and 100 year ARI events).
    - Design flood peak discharges, levels and velocities for the site and surrounding area after the development has occurred for all flood and stormwater events up to a 1% AEP) (equivalent to 1/100 year ARI). This should include at least the following flood and stormwater events: 63%, 39%, 18%, 10%, 5%, 2% and 1% AEP (equivalent to 1, 2, 5, 10, 20, 50 and 100 year ARI events).
    - Where flood modelling is required to be undertaken, the flood model needs to be extended to encompass the state-controlled road. Mapping should be provided to illustrate the pre-development scenario, and the post-development impacts for all relevant flood events and parameters (e.g., afflux, change in peak velocity, etc).
- Ensure the following are addressed, where applicable:
    - all relevant legal points of discharge for the subject site are identified; no new discharge points for stormwater will be permitted to a state-controlled road
    - the impact of existing or proposed noise barriers on overland flow paths is taken into consideration
    - overland flow paths are identified, and hydraulic conveyance is maintained on the subject site as part of the proposed development
    - flood storage capacity and hydraulic conveyance is maintained on the subject site as part of the proposed development
    - adverse impacts from sheet flow on the state-controlled road are prevented

- the proposed development does not cause a concentration of stormwater (including floodwater) flows discharging to the state-controlled road during construction or thereafter
- retaining structures, filling and excavation, landscaping, construction activities or any other works to the land have been designed to include provision for drainage so as not to adversely impact on the state-controlled road
- the proposed development does not impede or interfere with any drainage, stormwater or floodwater flows from the state-controlled road
- stormwater or floodwater flows have been designed to maintain the structural integrity of the road transport infrastructure
- existing stormwater drainage infrastructure on the state-controlled road is not interfered with or damaged by the proposed development such as through concentrated flows, surcharging, scour or deposition
- the quality of stormwater discharging onto the state-controlled road is not reduced through erosion and sedimentation and increase in pollutants (provide scour/erosion protection detail where necessary)
- pre and post development discharge comparison showing post development discharges are less than the pre development discharges for all the rainfall events up to Q100
- detention basin details and calculations demonstrating discharge rates are less than pre development discharge rates.
- if the stormwater discharging to a local government pit and pipe system, hydraulic grade lines details are required showing that pit and pipe system has the capacity
- if any earthwork or filling is undertaken in a flood prone area, a flood impact assessment is required.

- Include details of the mitigation measures proposed to address any potential stormwater impacts (including flooding impacts) of the proposed development. The design flood peak discharges, levels and velocities should be shown for the mitigated case to demonstrate there is no worsening impact on the state-controlled road.

Flood impact assessment

A RPEQ certified flood impact assessment can be prepared as part of the stormwater management plan and needs to summarise:

- the methodology, and
- provide detailed flood modelling results that demonstrate no adverse impacts to the state-controlled road.

A flood impact assessment must be undertaken by a RPEQ in accordance with relevant, best practice standards and guidance material, including:

- *Road Drainage Manual* (Sept 2019)
- *Hydrology and Hydraulic Modelling Guideline* (2019)
- *Australian Rainfall and Runoff* (2019) (for hydrologic methods)
- *Queensland Urban Drainage Manual*, 4th Edition (2017) – published by IPWEA Qld.

The flood model should encompass the existing and/or future state-controlled road. Mapping should be provided to illustrate the pre-development scenario, and the post-development impacts for all relevant flood events.

Sufficient high quality flood modelling mapping of results and impacts must be included as evidence of the assessment, including for both existing (pre-development) and developed cases. The state-controlled road must be clearly identified in all mapping. Parameters to be mapped are dependent on context and impacts but would typically include flood level (m AHD), flood depth (m), afflux (mm), peak velocity (m/s), peak velocity difference (m/s), hazard (m2/s) and change in hazard (m2/s).

If time of submergence/closure is relevant to the assessment, then results can be provided at specific points on the road/shared path as required to demonstrate no adverse impacts. If peak flow rate is relevant to the assessment (e.g. for flow in a culvert) then peak flow rates (m3/s) can be quoted for the existing and developed cases.

If there is an adverse impact, mitigation measures must be provided. Mitigation works must not encroach into the state-controlled road. The flood discharges and levels for the mitigated case should be shown at the state-controlled road and these must be no worse than for the base case.

If the development application is for a staged development, with a previous master plan approval, then the flood impact assessment must demonstrate how the impacts relate and comply with the overall approved master plan impacts at the state-controlled road.

TMR's preferred outcomes:

- For all flood events up to 1% annual exceedance probability (including climate change if appropriate), development results in negligible impacts:
    - within +/- 10mm to existing flood levels within a state-controlled road
    - no more than a 10% increase to existing peak velocities within a state-controlled road
    - no more than a 10% increase to existing time of submergence of a state-controlled road
    - does not adversely affect the existing hazard category of the state-controlled road. Where a H1 or H2 category applies to a state-controlled road or road transport infrastructure, the development does not result in an increase in the velocity x depth product of any more than 10%. Where H3 or greater hazard category applies, the individual impact of the development does not increase the existing velocity x depth product.

Note that TMR in its assessment must also consider potential for cumulative impacts in addition to the individual development impacts associated with the development application.

Appendix 3 – Pavement impact assessment

A pavement impact assessment should be prepared and certified by a RPEQ in accordance with the *Guide to Traffic Impact Assessment*. This should include:

- identifying the number of types of vehicles that will be generated by the development during both construction and operational phases
- identifying the sections of the state-controlled road network where pavement assessment is required based on the standard axel repetitions (SAR) thresholds
- identifying the expected pavement life of each impacted section of the state-controlled road
- mitigating pavement impacts through provision of:
    - extra pavement width (for example, to prevent edge degradation)
    - a change in surfacing type of pavement thickness
    - sealing an unsealed pavement
    - increasing maintenance, and/or the need for unscheduled pavement rehabilitation or construction of new pavement
    - provision of monetary contributions required to offset pavement impacts throughout the life of the operations.

Further guidance on preparing a pavement impact assessment is available in the *Guide to Traffic Impact Assessment* and via the *Pavement Impact Assessment Practice Note* online at:
https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guide-to-Traffic-Impact-Assessment.

Appendix 4 - Corridor improvements

Corridor improvements are often planned and undertaken as part of a region's regular program of works. It is part of the day-to-day work TMR undertakes to ensure the safety, function, and efficiency of the network. Due to the nature of corridor improvements, it is not necessary or appropriate to identify these activities in DAMS.

Applicants are encouraged to contact their local TMR regional roads office for more information about corridor improvements early in the development process. TMR regional roads office locations are available at: https://www.qld.gov.au/transport/contacts/roads.

Examples of corridor improvements include the following initiatives:

- **QTRIP** details the current transport and road infrastructure projects that the Queensland Government plans to deliver over the next 4 years. These plans are published on at https://www.tmr.qld.gov.au/About-us/Corporate-information/Publications/Queensland-Transport-and-Roads-Investment-Program.
- The **Targeted Road Safety Program** is the Queensland Government's program of road safety initiatives (https://www.tmr.qld.gov.au/Safety/Road-safety/Targeted-Road-Safety-Program). Applicants are encouraged to contact their local TMR regional roads office for more information about these initiatives. Examples of these initiatives include:
    - **Safer Roads Sooner** is a state funded capital works program that aims to improve the safety of the state-controlled road network through the implementation of high-benefit, cost-effective engineering countermeasures and safety treatments that target known and potential high severity (fatalities and serious injuries) crash sites at specific locations. The document is available at https://www.tmr.qld.gov.au/Community-and-environment/Planning-for-the-future/Building-safer-roads
    - **Black Spot Program** is a federally funded minor capital works program that targets known and potential high severity (fatalities and serious injuries) crash sites at specific locations. The document is available at https://investment.infrastructure.gov.au/about/local-initiatives/black-spot-program/index.aspx.
    - **Flashing School Zone Signs** is a program that implements the Queensland Government's commitment to deliver flashing school zone signs in existing school zones on the national, state, and local road networks. The document is available at https://www.qld.gov.au/transport/safety/rules/schools.
    - **Township Entry Treatments** is an initiative that prioritises state funding on the state-controlled network on signage and other treatments highlighting the transition to motorists, from high-speed highways to low-speed townships. The document is available at https://www.tmr.qld.gov.au/Safety/Road-safety/Targeted-Road-Safety-Program/Township-Entry-Treatments.
    - **Vulnerable Users** is a state funded program designed to treat state-controlled network locations with safety issues specifically related to cyclists, pedestrians, and motorcyclists.
- **Principal Cycle Network Plans and Priority Route Maps** guide the delivery of a connected and cohesive cycle network across Queensland. These plans are intended to support, guide, and inform the planning, design and construction of the transport network. These maps are available at: https://www.tmr.qld.gov.au/Travel-and-transport/Cycling/Principal-cycle-network/Principal-Cycle-Network-Plans#:~:text=Priority%20Route%20Maps%20support%20delivery,in%20each%20local%20government%20area.
- **Other corridor improvement work** may be required in response to emerging safety or efficiency issues within a state-controlled road. These activities may include:
    - announcements made by a Minister or government representative where a public commitment is made in response to emerging issues
    - funded and committed works that fall outside an existing program of works – For example COVID-19 Relief and Recovery Fund
    - natural disaster recovery activities.

Appendix 5 – Structural engineering drawings

Structural engineering drawings for the development should be prepared and certified by a RPEQ and provide design information on the following:

- Cross sections, elevations and supporting technical details showing the type, spacing, location and depth of building foundation structures (including any structures such as footings, and bored piles/piers and associated columns).
- Preliminary plans, sections and details showing the temporary and permanent retention system for the development, including the location, length, depth, and angle of insertion of any proposed shoring, rock anchors and/or soil nails. The application should demonstrate that any proposed temporary retention will not compromise the state-controlled road both during construction and ongoing operation, including any structural or geotechnical impacts.
- Technical information demonstrating that the loading implications of the proposed development will not compromise the safety and operational integrity of the state-controlled road both during construction and ongoing operation, including any structural or geotechnical impacts.
- Technical information detailing the loading configuration of the proposed development. This information should demonstrate that the lateral and vertical loading implications of the proposed development will not compromise the safety and operational integrity of the state-controlled road.
- Temporary rock anchors and/or soil nails that are intended to remain in place after construction.
- Slope stability, which should be consistent with the requirements stipulated in TMR's Geotechnical design standard available at: https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Geotechnical-Design-Standard.
- Technical information demonstrating that any basement retention system is robust and sufficient to prevent any movements on road transport infrastructure. This may require finite element and seepage modelling.

Appendix 6 – Geotechnical assessment

A RPEQ certified geotechnical assessment should be prepared in accordance with the *Road Planning and Design Manual* and provide the following design information to inform the structural engineering design and construction management of the development:

- scaled cross sections and elevations that clearly show the interface with the state-controlled road, including road transport infrastructure, because of the proposed earthworks
- scaled cross sections and elevations showing the difference between existing site levels and finished/design levels
- earthworks, including:
  - any excavation and drilling of rock
  - filling/back filling and compaction
  - methods for excavation
  - the stability of open excavations
- permanent and temporary basement retention options, design loads and geotechnical design parameters
- suitable options for foundation structures, design loads and geotechnical design parameters
- vibration impacts from drilling, boring and excavation
- groundwater management
- scaled cross sections and elevations that clearly show the interface with the state-controlled road, including road transport infrastructure, because of the proposed earthworks (the difference between existing site levels and finished/design levels should be clearly shown)
- advice on effects on the existing road transport infrastructure, including the tunnel, and relevant construction issues.

Alternatively, copies of any existing geotechnical investigations previously undertaken for the site should be provided.

Appendix 7 – Earthworks drawings

Earthworks drawings should be prepared and certified by a RPEQ and demonstrate that any excavation or filling/backfilling works and retaining structures associated with a development will be located outside the state-controlled road.

Earthworks drawings should include scaled, cross sections, elevations and supporting technical details clearly showing:

- the location, setback and extent of proposed excavation and filling works including likely volumes of cut and fill adjacent to the state-controlled road
- the maximum depth of any excavation in relation to the existing ground level on the site and the level of road transport infrastructure
- the maximum height of any proposed filling and the gradient and height of any proposed batters adjacent to the state-controlled road
- the maximum height and intended form/design of any proposed retaining walls or structures adjacent to the state-controlled road
- the outermost projections of road transport infrastructure, such as soil nails and other retaining and footing structures
- the interface with the state-controlled road because of the proposed earthworks, including the difference between existing site levels and finished/design levels.

Appendix 8 – Noise assessment

Where development includes a sensitive land use and is likely to be impacted by noise from a state-controlled road, an applicant should provide a noise assessment report demonstrating that:

- relevant noise criteria will not be exceeded and therefore no attenuation measures are required, or
- noise attenuation treatments can be included in a development to ensure that noise levels are reduced to comply with the applicable noise criteria.

A noise assessment report seeks to ensure that any sensitive development achieves acceptable noise levels for residents and visitors by ensuring development mitigates the adverse impacts from noise generated by a state-controlled road.

A noise assessment report should adequately document and present all the data inputs, assumptions and assessment results, and noise attenuation strategies/options considered as part of the assessment. To limit the expense of preparing reports, a noise assessment report has been split into two parts:

- **Noise Assessment Report – Part A** is to present the noise assessment findings. The findings and conclusion of Part A will determine whether noise attenuation measures will be required for the development
- **Noise Assessment Report – Part B** is to detail the noise attenuation measures required as per the results of Part A assessment and will only need to be provided when the relevant noise criteria for the development in State code 1 are exceeded.

Where it is obvious that a development will require noise attenuation measures, it is suggested a full noise assessment report (i.e., Part A and Part B) be prepared at the same time.

The noise assessment reports, for both Part A and Part B, are to be prepared by a qualified acoustic consultant and certified by a RPEQ.

Noise Assessment Report Part A – Review of noise impacts

Development details

The following information is to be provided:

- description of the subject site including real property description/s and a locality plan
- identification of the noise sensitive uses proposed as part of the development
- architectural drawings illustrating the proposed development including building and open space layout plans, noise sensitive areas and uses, the setback distances for building facades (noise sensitive locations), proposed lot numbers (if applicable)
- drawings showing site contours and earthworks (cut and fill) information to clarify the existing topography and proposed finished levels
- confirmation of the extent and height of any existing noise barriers and their location in relation to the proposed development.

Noise measurement

The following information is to be provided:

- the source and date of collection of all measurement data used, generally data more than 12 months old cannot be used in the acoustical assessment
- a summary of the noise measurement results including a layout plan depicting the site locations and positions of the noise measurements conducted for the assessment, the time of day and weekday the measurements took place

- measurement data sheets and site attendance records/site notes taken by the consultant measuring noise at each measurement site.

Noise results

The following information is to be provided:

- results are presented for all noise parameters which are applicable to the assessment
- all results of measurements, calculations and predictions are presented in a tabular format
- tabulation of calculated noise levels for all noise sensitive receptors (with and without noise attenuation treatments)
- documentation of all adopted noise model input data and corrections
- noise contours or plans showing specific areas where noise criteria are exceeded:
    - the noise level exposures can be produced as noise level contours or presented in a format depicting areas where the specified noise criteria are exceeded or where the noise levels of noise sensitive receptors fall within a certain noise level range. Which format to adopt will depend on the number of factors/options/criteria considered in the noise assessment and the type of development proposal being assessed.
    - when presenting noise contours, the figure should clearly state whether the noise levels are facade corrected or free field and the receptor height. The maximum grid spacing shall be a 20 metre by 20 metre square. Reference to grid spacing is to be noted in the title block for each figure.

Acoustic assessment

For acoustic assessment, the following information should be provided:

- Description of the investigation process in determining the noise exceedance:
    - careful interrogation of noise level contours needs to be undertaken in conjunction with the tabulated noise levels to clearly identify whether any of the criteria levels are exceeded.
- All acoustical assessments undertaken as part of the noise assessment report must take the following into account:
    - Where the building locations are not yet known, the assumed location of building facades is to be the minimum setback distance required by the relevant local government planning scheme for the applicable building type. A ‘facade correction’ of 2.5dB(A) should be added to free field measurement or prediction to determine the facade corrected noise level. The measurement or prediction location is at a distance of 1 metre from the proposed façade location.
    - Where the finished floor levels are known, the receptor height used in the acoustical assessment should be 1.5 metres above the finished floor level/s. In the case of multi-level buildings, all floor levels are to be assessed. For reconfiguration of lot applications, where the finished floor levels are not known, the receptor heights should be assumed at 1.8 metres and 4.6 metres above an assumed building pad level, for the ground and first floors respectively. It is essential that both low and high-set residential buildings be considered in the assessment.

Recommendation

The noise assessment report Part A must clearly articulate whether noise generated from the state-controlled road exceeds the relevant noise criteria as outlined in SDAP. If levels are exceeded, the report must recommend that attenuation measures are to be provided by the development.

Attachments

Attachments to include where applicable are:

- all field measurement results
- all input and output data and analysis including modelling data files in electronic format
- supplementary reports and references

- any other explanatory and general notes.

Noise Assessment Report Part B – Noise attenuation measures

If the noise assessment report Part A recommends that noise attenuation measures are necessary, these measures should be presented as per the requirements of Part B.

Attenuation

Part B should provide full details of the preferred noise attenuation strategies and clearly demonstrate that the proposed measures will reduce noise to acceptable levels including:

- description of the investigation process in determining the preferred noise attenuation strategies/options
- description and layout plans of all existing and recommended noise attenuation treatment/options, including the length, height, and location of proposed noise barriers
- layout plans showing the length, height, and location of all existing and recommended noise attenuation treatment options, including:
    - the top edge of any proposed noise attenuation structures (reduced level (RL) on Australian Height Datum (AHD)) which are required to meet noise criteria for outdoor areas, ground level facades and first floor facades
    - the height of any noise attenuation structures need to be specified relative to the finished surface levels, pad levels or finished floor level, whichever is applicable
    - if the proposed noise attenuating structure(s) include/s an earth mound/s, the footprint extent and profile of any earth mound/s
    - the layout of the proposed development
    - the building pad levels as reduced level (RL AHD) for all lots where the application is a reconfiguration of a lot
    - the finished floor levels as reduced level (RL AHD) for all buildings
    - the finished surface levels as reduced level (RL AHD) for outdoor areas
- supporting analysis, calculations and model outputs substantiating the ability of the proposed treatments to attenuate noise to acceptable levels. Where AS3671 calculations have been conducted, full details of these calculations shall be provided such that the department can reproduce the calculations
- reference should be made to the *Transport Noise Management Code of Practice* and relevant technical standards, including MRTS15 Noise Fences technical standard regarding noise fence requirements, available at https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Transport-noise-management-code-of-practice.

Recommendations and conclusions

The noise assessment report - Part B must clearly demonstrate the noise attenuation measures to be provided as part of the development to meet the noise criteria as outlined in SDAP. The report shall provide noise attenuation measures to achieve the primary noise criteria. This will allow the state to make an informed decision regarding conditions of development.

Attachments

Attachments to include where applicable:

- all input and output data and analysis, including modelling data files, in electronic format
- supplementary reports and references
- any other explanatory and general notes.