

Cross River Rail project

Coordinator-General's change report – no. 8

November 2020

As amended December 2020

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Source number D20/145880

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Synopsis

The Cross River Rail Project (the project) is a rail link from Dutton Park to Bowen Hills, including a 5.9 km tunnel under the Brisbane River and Central Business District.

On 20 December 2012, the Coordinator-General's evaluation report was released evaluating the project's environmental impact statement and stating conditions. Since then, seven project change applications have been evaluated. Construction of the project commenced on 19 September 2019.

On 18 August 2020, the Cross River Rail Delivery Authority—as the project proponent—applied under section 35C of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) to evaluate an eighth proposed change to the project.

The proponent's request, which is the subject of this report, seeks the following changes:

- provision of heavy vehicle access arrangements to the Southern Portal worksite via Kent Street, Dutton Park and via a private road on land within the Princess Alexandra Hospital site to provide for improved safety and efficiency for heavy vehicle movements to and from the Southern Portal worksite, resulting in an increase of one heavy vehicle per hour from the evaluated project
- use (until 2024) of Kent Street and the Kent Street/Annerley Road intersection at Dutton Park to allow for heavy vehicle access to the Southern Portal worksite, and a private road on land within the Princess Alexandra Hospital site
- condition amendments to remove the existing limitation of no more than 80 hours of continuous work within the rail corridor for the Dutton Park, Southern Portal and Boggo Road worksites to align with timeframes set by Queensland Rail approvals where up to 7 days has been permitted for works to occur in the rail corridor
- whole of project condition amendments to remove the existing limitation of a 10:00pm conclusion of extended work hours on a roadway or busway at all project sites to align with timeframes set by permits granted by authorities such as Brisbane City Council and the Department of Transport and Main Roads. This change seeks to allow certain Project Works (e.g. continuous concrete pours, works in a busway) that are likely to exceed the current noise goals and cannot be undertaken during day/evening hours to occur during late night hours and on Sundays/public holidays.

The change application was released for public comment from 5 September 2020 to 2 October 2020. Thirty submissions were received on the application with key issues raised including concerns about the change to the heavy vehicle access route, including pedestrian and cyclist safety, at the Southern Portal worksite and concerns about the potential for increased noise and vibration as a result of the change to extended work hours.

All submissions received during the public notification period have been considered in finalising the evaluation of the proposed changes to the project.

Coordinator-General's conclusions

I am satisfied that the requirements of Part 4, Section 35E of the SDPWO Act have been met. Along with the application, and all submissions received, I have considered the project as

evaluated, which includes the approved environmental management framework as set out by the existing Imposed Conditions for the project.

Under this framework, an approved Outline Environmental Management Plan has been established that sets out the environmental outcomes and performance criteria that must be achieved by the proponent throughout construction of the project via detailed Construction Environmental Management Plans and sub-plans.

I have accepted the changes to the heavy vehicle access route travelling one-way for improved safety and efficiency, at the Southern Portal worksite and am satisfied that the existing imposed conditions—in particular Imposed Condition 14—appropriately addresses any impacts resulting from the requested changes.

Consistent with the evaluated project, haulage will be managed as part of the Construction Traffic Management Plan (CTMP) sub-plan and will be informed by a road safety assessment. The proponent is required to work closely with Brisbane City Council (BCC) on the CTMP-sub plan's content, including its local traffic management and safety measures, and will provide the document to BCC for approval prior to it being finalised. I have also accepted the temporary change to the project boundary to facilitate the changed heavy vehicle access route.

Regarding the changes in work hours, I accept these have been sought to align with timeframes granted in permits by entities such as Queensland Rail, the Department of Transport and Main Roads and Brisbane City Council for works in rail, roads and busways. This is required as such works are usually only allowed to occur after hours, so that disruptions for road and rail users are minimised.

These changes will allow for a reduction in the overall number of rail, road and busway possession permits needed by ensuring the works can be finished in the permitted time granted by the authorities. While longer duration works would be permitted to occur, the scheduled works will not be continuous for the 7 day period. These changes will allow the proponent to program and manage works so that noisier works are undertaken primarily during day-time work hours, with less intensive works at night.

Importantly, this change does not authorise general construction activities to occur 24 hours, 7 days. The authorised works are those that require continuous construction support, such as continuous concrete pours, pipe-jacking or other ground works to avoid a failure or a construction incident. This includes spoil haulage, materials and equipment delivery and delivery of "in time" materials such as concrete, hazardous materials, and large components and machinery.

The project is governed by a structured environmental management framework (EMF) that has been established in the context of the project's potential environmental impacts to ensure the proponent will consult and collaborate with stakeholders, including Directly Affected Persons, in advance of any project works. The EMF includes controls that have been set by conditions, including mitigation and management of impacts, community engagement and complaints management requirements. The EMF also provides the framework for complaints management and is overseen by an independent Environmental Monitor and Community Relations Monitor that provide increased rigour and transparency for the project and ensure conditions are implemented and complaints are addressed.

The proponent must adhere to project conditions set in the EMF to ensure impacts are minimised – including wherever possible, ensuring noise goals are met through responsive construction practices, such as scheduling noisier works during day time hours, or peak hours;

using the lowest noise emitting plant and equipment; and using noise attenuation screens. The proponent must also respond rapidly to any complaints and report regularly on how people’s concerns are addressed.

I am satisfied that the changes will ensure overall acceptable outcomes for the project's delivery and progressive design while also ensuring impacts are minimised, mitigated and managed.

Appendix 1 of this change report replaces Appendix 1 of the change report dated 16 July 2020. Appendix 2 of this change report replaces Appendix 2 of the change report dated 16 July 2020, noting no changes have been made to this Appendix.

In accordance with section 35L of SDPWO Act, this report will lapse on 31 December 2024.

A copy of this report will be provided to the proponent and relevant government agencies and will also be made publicly available at: www.dsdmip.gld.gov.au/crr.



.....
Toni Power
Coordinator-General

1. Introduction

This change report has been prepared pursuant to section 35I of the *State Development and Public Works Organisation Act 1971* (Qld) (SDPWO Act) and provides an evaluation of the proposed change to the Cross River Rail project (the project) outlined in the project change application received on 18 August 2020 (the August 2020 project change application).

This change report does not re-evaluate the project as a whole. Further, it is not intended to revisit all the matters that were identified and subsequently addressed in the project's environmental impact statement (EIS) assessment process. Rather, this report concentrates on the particular issues identified in the project change application. The change report:

- summarises the change report process, the Cross River Rail Delivery Authority's proposed changes to the project and the Imposed Conditions and the key issues associated with the proposed changes
- presents an evaluation of the proposed changes, based on information contained in the project change application, submissions received and the proponent's response to the submissions
- provides a set of revised conditions under which the project may proceed.

2. About the project

2.1 The proponent

The proponent for the project is the Cross River Rail Delivery Authority (CRRDA), an independent statutory body established under the *Cross River Rail Delivery Authority Act 2016* to facilitate and manage the delivery of the project. The CRRDA commenced operation on 14 April 2017.

2.2 The project

The project is a 10.2 km north-south rail line connecting Dutton Park to Bowen Hills with 5.9 km of tunnel under the Brisbane River and Central Business District (CBD). The project also includes new underground stations at Boggo Road, Woolloongabba, Albert Street, and Roma Street, with upgrades to the existing Exhibition Railway Station and stations between Fairfield to Salisbury. Further information on the project and changes that have occurred since the project was originally approved in 2012 are detailed in:

- the Coordinator-General's evaluation report (CGER) on the EIS, dated 20 December 2012
- the Coordinator-General's change report (CGCR) dated 8 June 2017
- the CGCR dated 30 August 2018
- the CGCR dated 13 March 2019

- the CGCR dated 26 June 2019
- the CGCR dated 4 October 2019
- the CGCR dated 7 May 2020
- the CGCR dated 16 July 2020.

These documents, the EIS and all subsequent change requests are available on the department's website at www.dsdmip.gld.gov.au/crr.

2.2.1 Project environmental management framework

As part of the project, an environmental management framework (EMF) was established through the existing imposed conditions to manage the project's potential environmental impacts. An outline of the approved environmental management framework has been provided below, to provide additional context for how the current requested changes to the project, and any future changes, will be managed.

The framework has been implemented in accordance with the most recent set of the project's Imposed Conditions since the construction of the project commenced in September 2019.

The framework (refer to Figure 2-1) comprises a number of elements, being:

- the Imposed Conditions
- the Outline Environmental Management Plan (OEMP), which is required by the Imposed Conditions
- the Construction Environmental Management Plans (CEMPs) (including sub-plans), which are required for all project works, and in some cases are required to be specifically developed for particular project works (Condition 4).

The environmental management framework is supported by:

- a compliance and reporting regime, as set out in Imposed Conditions 5 and 6, and
- two appointed independent entities required by the Imposed Conditions that provide oversight of the project to increase rigour and transparency for the project. Both entities are required to be independent, appropriately skilled and experienced, and have been approved by the Coordinator-General to provide oversight for the implementation of the project's Imposed Conditions. Those entities are:
 - the Independent Environmental Monitor (Imposed Condition 7), and
 - the Independent Community Relations Monitor (Imposed Condition 8).

In accordance with the Imposed Conditions, the OEMP (approved by the Coordinator-General initially on 18 December 2018 and updated September 2019) establishes the overarching environmental outcomes and performance criteria that must be achieved by the proponent throughout construction. The OEMP includes mitigation measures and monitoring and reporting requirements for each environmental element to achieve the environmental outcomes.

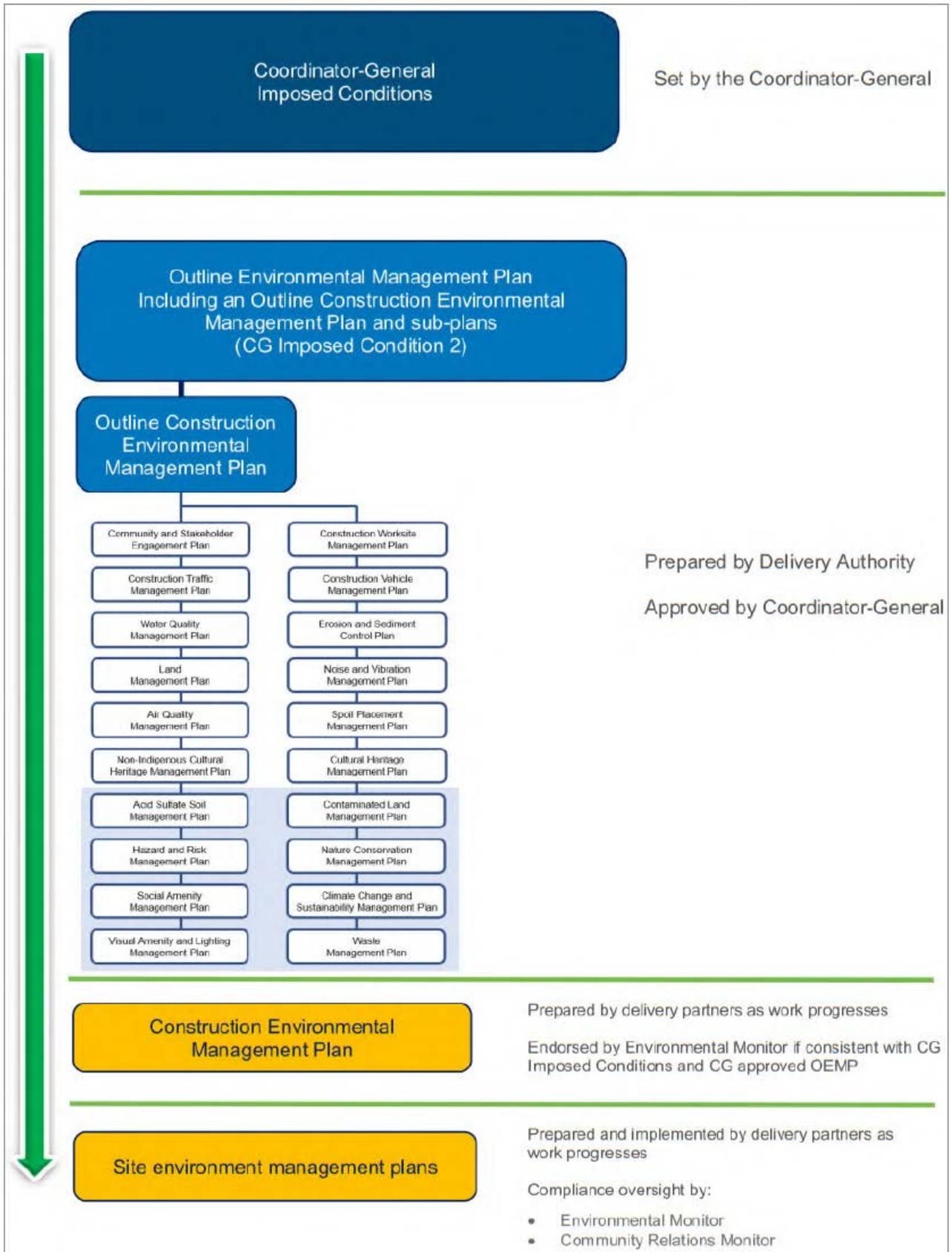


Figure 2-1: Cross River Rail Project approved environmental management framework

Detailed CEMPs—that must be consistent with the approved OEMP—are progressively prepared by the proponent as the detailed design work of the project is progressed for each section of the project. The CEMP must be endorsed by the Environmental Monitor as being consistent with the OEMP and complying with the Imposed Conditions (construction) prior to commencement of relevant construction works. That endorsement cannot be given where the requirements are not met.

As outlined in the project's approved OEMP, each CEMP and sub-plan required for the project must include each of the following components:

- environmental outcome (for each environmental element; the aspect of project implementation to be managed as it affects environmental values e.g. air quality)
- performance criteria
- mitigation measures
- monitoring requirements
- reporting requirements
- corrective actions.

The project's EMF was initially approved as part of the CGER on the EIS for the project. Since that initial approval, the EMF has remained throughout all subsequent changes requested by the proponent. The framework has also been successfully implemented since September 2019, when the project commenced construction. The OEMP has been updated (where required) to reflect each of the changes to the project approved since 2017.

3. Change report process

3.1 Proponent's reason for change and project change details

The reasons and details for the proposed changes to the project are provided in the proponent's change application that is available at: www.dsdmip.gld.gov.au/crr.

3.2 Public Notification

In accordance with section 35G of the SDPWO Act, the proponent was required to publicly notify the proposed change to the project from 5 September 2020 to 2 October 2020. A total of 30 submissions were received from:

- 20 private submitters
- five non-government organisations
- three State Government agencies (Department of Transport and Main Roads (DTMR), Queensland Health and Department of Environment and Science (DES))
- one local government elected representative, BCC

- BCC.

Key issues raised in submissions on the proposed changes to the project included:

- pedestrian and cyclist safety at the changed heavy vehicle access route
- potential increase in traffic impacts at the Annerley Road and Cornwall Street intersection
- potential for increased noise impacts from the changed heavy vehicle access route on local residents
- potential noise from night-time works and impacts on health and well-being and amenity on nearby residents from the change to work hours
- potential noise and air impacts on people who are in long-stay health rehabilitation facilities from the change to work hours.

The proponent was requested to respond to matters raised in the received submissions and provided further information which supported the application for project change, including responding to submitter concerns.

4. Evaluation of the change application

In making the evaluation, the following has been considered in accordance with section 35H of the SDPWO Act:

- the nature of the proposed change and its effects on the project
- the project (including all required impact management and mitigation measures)
- the material mentioned in the SDPWO Act to the extent it is relevant to the proposed change and its effects on the project
- the environmental effects of the proposed change and its effects on the project
- all submissions received on the proposed changes.

Sections 4.1 and 4.2 of this report provide an assessment of the requested changes to the heavy vehicle access route and approved project boundary at the Southern Portal worksite, while Section 4.3.4 provides an assessment of the requested changes to the extended work hours and Imposed Conditions.

4.1 Assessment of the changes to the heavy vehicle access arrangements at the Southern Portal Worksite

Heavy vehicles¹ are able to access the Southern Portal worksite via Cornwall Street and Ipswich Road at the O’Keefe Street intersection; and exit from Kent Street north next to the Princess Alexandra laundry building in a circular one-way loop (24 hours, 7 days per week). Light vehicle access into the Southern Portal worksite is via Kent Street (for entering and exiting the site).

As part of the project change application 8, the proponent has requested changes to the heavy vehicle access arrangements for the Southern Portal worksite to allow access (24 hours, 7 days per week) via Kent Street at the Cornwall Street intersection, Dutton Park, and via a private road on land within the Princess Alexandra Hospital site. The proponent states that the changes are to provide for improved safety and efficiency for heavy vehicle access.

4.1.1 Traffic and Transport

4.1.1.1 Proposed construction traffic changes at Southern Portal worksite

Under the proposed change in heavy vehicle access route (shown in Figure 4-1 and Figure 4-2), heavy vehicles would:

- access the worksite via the Kent Street connection to the Annerley Road/Cornwall Street intersection
- exit via Kent Street/Princess Alexandra Hospital approach at the Ipswich Road/O’Keefe Street intersection in a one-way transit.

Access arrangements for oversized heavy vehicles and light vehicles remain as previously evaluated.

The changed arrangements would be required until works at the Southern Portal worksite are complete, which is expected to be 2024.

The proponent advised that following detailed design and investigations, the proposed change would:

- enhance the efficiency and safety of heavy vehicle traffic access and egress from the Southern Portal worksite by allowing for a one-way route for heavy vehicles (except for oversized heavy vehicles). Oversized heavy vehicles will be authorised under the existing Haulage Management Plan which forms part of the Project Management System.
- reduce the risk of a longer construction program, which has the potential to reduce the overall duration of community effects at the Southern Portal worksite

¹ Longest heavy vehicle would be 19-metre long semi-trailers.

- allow enhancement of the existing shared-user path for pedestrians and cyclists on the southern end of Kent Street.

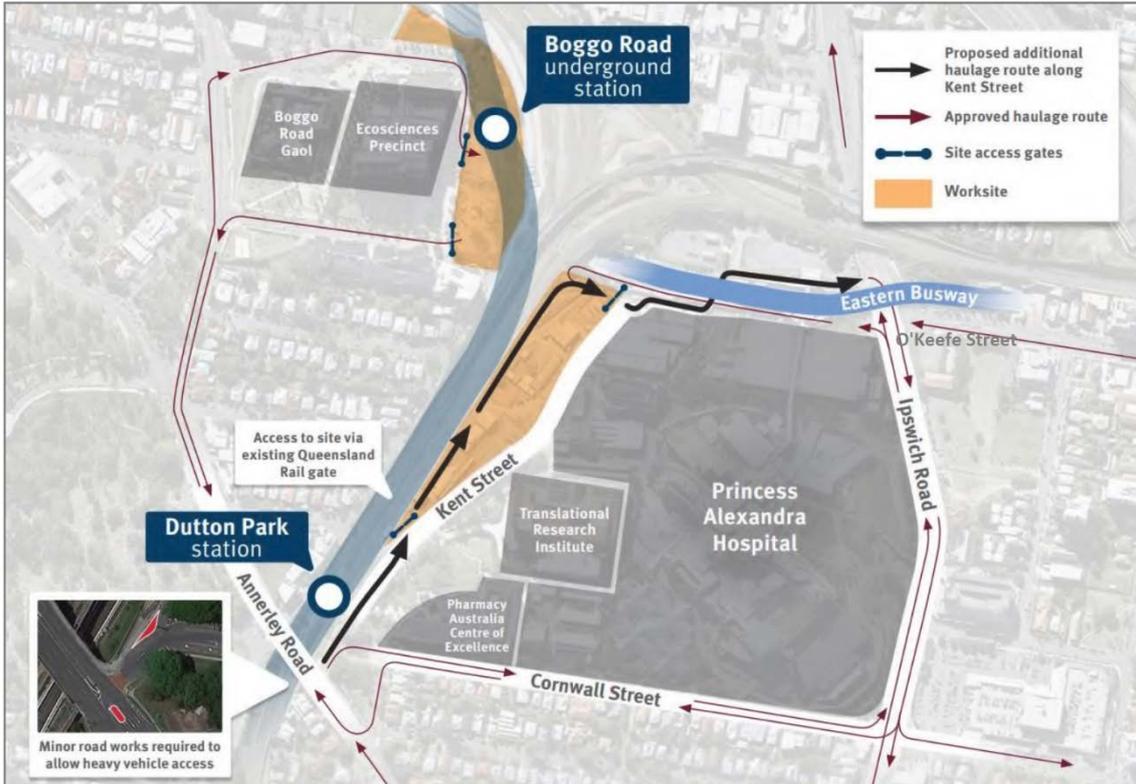


Figure 4-1: Proposed change in heavy vehicle access



Figure 4-2: Approved and proposed heavy vehicle route

4.1.1.2 Potential impacts

4.1.1.2.1 Traffic

The proponent's application confirms the changed project will allow a maximum of 10 heavy vehicles per hour to access the Southern Portal worksite via the changed access/egress route. This is an increase of one heavy vehicle per hour from the evaluated project.

It is anticipated the peak construction traffic volume for the Southern Portal worksite will occur in May 2022 when average construction traffic volumes are expected to be around four vehicles per hour, although up to 10 heavy vehicles per hour may be required during peak construction. The proponent estimates the 10 heavy vehicles per hour as the worst-case scenario in its traffic impact assessment (see Table 2 'Traffic volume summary' in the project change application [Volume 1, pages 20 and 21](#)).

The traffic assessment undertaken for the requested change, indicates that the intersections that will be impacted are Annerley Road/Cornwall Street and Cornwall Street/Kent Street (Figure 4-1). The left turn movement from Cornwall Street into Kent Street will have an increase of more than 5 per cent of traffic estimated to be using the roads in 2022.

The proponent undertook a detailed traffic analysis² in accordance with requirements of the DTMR's *Guide to Traffic Impact Assessment* (GTIA, 2018). In considering the likely increase in traffic from the project, the proponent's assessment including Signalised and Un-signalised Intersection Design and Research Aid (SIDRA) results indicated that the delays to traffic will require an upgrade to a signalised intersection and queueing will be contained within the existing right turn lane on Annerley Road. DTMR and BCC manage the roads in question.

A number of private submitters and key agencies raised concerns about the change to the heavy vehicle access arrangements, in particular the increased risk to the safety of pedestrians and cyclists around the Cornwall Street/Kent Street intersection. Issues were also raised in relation to the increased potential for congestion to occur on Annerley Road and potential for increases in traffic noise from the heavy vehicles on local residents (adjacent to Cornwall Street).

4.1.1.2.2 Noise

The proponent anticipates that the proposed change to provide for heavy vehicle access at Kent Street in the Southern Portal worksite will result in an overall increase of road traffic noise levels of up to 0.7 A-weighted decibels (dB(A)) (section 3.8 of Volume 1 and Volume 3 Attachment B: Technical Report – Noise and Vibration (Heavy Vehicle Access)). This is less than DTMR's GTIA 2dBA threshold of significance in relation to changes in the noise emission level for existing roads.

² Attachment B of Volume 3 (Technical Report – Traffic and Transport) of the August 2020 project change application.

4.1.1.3 Management and mitigation measures

4.1.1.3.1 Traffic and Transport

The proposed changes to heavy vehicle movements along Annerley Road, Cornwall Street and Kent Street are to be managed in accordance with the EMF. Under the EMF, the proponent is to prepare a site-specific CTMP sub-plan Southern Portal Utility Works that will detail access, on-road arrangements and traffic operations for the Southern Portal Precinct and worksite. The proponent provided a draft of this sub-plan as further information in support of the change request and this confirms the Southern Portal worksite would require a number of upgrades to ensure pedestrian and cyclist safety.

The draft CTMP sub-plan details a number of measures that will be undertaken to ensure pedestrian and cyclist safety at the worksite, as well as the required modifications to roads to facilitate the heavy vehicle movements required.

These measures include but are not limited to installing additional signage, upgrades to the footpath and kerbs and installing boom gates where the trucks cross the pedestrian/cyclist path at Kent Street. The boom gates will be operated by a traffic controller and drivers of heavy vehicles will be required to call-up prior to approaching the worksite to advise the operator prior to entering the site, and minor road modifications to facilitate the heavy vehicle movements.

A traffic controller will also be stationed to the north of the access with a 'Stop/Slow' sign to direct and assist pedestrians and cyclists. This measure is currently being utilised at the worksite. A submission received commended the usefulness of this work, and I support it continuing.

The finalised CTMP sub-plan must be endorsed by the Independent Environmental Monitor prior to the proponent commencing work and then be updated and reviewed every six months, in accordance with the CTMP. This will ensure that any changes to the road network and pedestrian/cyclist movements will be incorporated into the CTMP sub-plan and managed appropriately.

The proponent has also identified in the change application that minor modifications would be required to the Annerley Road/Cornwall Street centre median strip and eastern kerb line at the Cornwall Street/Kent Street intersection to accommodate the movements of the heavy vehicles.

Imposed Condition 14 (Appendix 1) requires the proponent to undertake a number of measures including providing advance notification to Directly Affected Persons and local communities within the vicinity of haulage routes and that Project Works must be designed, planned and implemented to maintain acceptable footpath and cycle paths in areas adjacent to worksites. Imposed Condition 14 also requires that the CTMP must include local traffic management measures developed in consultation with and approved by BCC, for key intersections including Kent Street, Cornwall Street and Ipswich Road.

4.1.1.3.2 Noise

The potential noise impacts from the proposed heavy vehicle access changes at the Southern Portal worksite are predicted to be less than 1dBA greater and within the noise threshold set in the project's existing conditions. Therefore, no extra noise impact management or mitigation measures are required.

The project's Noise and Vibration Management Plan (NVMP) contains extensive management and mitigation measures to manage the impacts that may arise through the project. Any noise complaints will be dealt with in accordance with the complaints management procedure outlined in the CEMP. These complaints must be addressed as soon as practicable.

4.1.1.4 Conclusions

I am satisfied that the increase in vehicle movements will not generate any material impacts and I am satisfied that the existing Imposed Conditions—and in particular Imposed Condition 14—establish the appropriate management framework to address the expected impacts, including increase in heavy vehicles movements around the Southern Portal worksite and potential impact to pedestrian and cyclist safety, resulting from the requested changes. The proponent will consult with BCC on the draft CTMP sub-plan which is required to be endorsed by the Independent Environmental Monitor prior to works commencing.

Consistent with the evaluated project, haulage will be managed as part of the finalised CTMP sub-plan and will be informed by a road safety assessment for spoil haulage routes prior to the commencement of relevant Project Works. Imposed Condition 14 requires that the CTMP (and relevant sub-plans) include local traffic management measures developed in consultation with BCC for key intersections.

4.2 Assessment of changes to project boundary

The requested changes to the previously evaluated project boundary (see Figure 4-3) are to facilitate the changed heavy vehicle access route at the Southern Portal worksite. The project change request included land impact drawings to identify the change in temporary land requirements.



Figure 4-3: Project boundary change

4.2.1.1 Proposed land use and tenure changes at Southern Portal worksite

The proponent requested the project boundary be extended for additional temporary occupation of government-owned land to allow for heavy vehicles to access the Southern Portal worksite via Kent Street at Cornwall Street in a one-way direction. The changes would also result in minor modifications to the existing intersection of Kent Street and Annerley Road to facilitate right hand movements of heavy vehicles to ensure the vehicles can manoeuvre safely.

The proponent has requested use (until 2024) of:

- a part of Annerley Road and Kent Street, Dutton Park; and
- a private road owned by Metro South Hospital and Health Service on Lots 702SP198203 and 2SP198202 on the eastern side of the existing rail line.

Kent Street, between Cornwall Street and its termination with the Princess Alexandra Hospital private road is a BCC owned local road. The private road on Lots 702198203 and 2SP198202 is owned by Metro South Hospital and Health Service.

4.2.1.2 Potential impacts

The requested change increases the number of properties required (either temporarily or permanently) by one to a total of 50 surface properties³, equating to an additional 1.81 hectares (ha).

The requested change outlined that the additional temporary land requirements would not impact on use of utilities—including telecommunications and power—currently located within the declared road area of Kent Street.

4.2.1.3 Management and mitigation measures

The proponent stated it had consulted with directly affected stakeholders, including Princess Alexandra Hospital, BCC, DTMR and various active transport groups in relation to the temporary road and land requirements. No submissions were received during the public notification period relating to the temporary change to the project boundary.

Access to the private road on State owned land, which is managed by the Princess Alexandra Hospital will be by a construction license agreement, which will include relevant conditions to manage and restore any damage to the road caused by project activity.

Management of the road surface and reinstatement of land after construction is completed, will be managed under specific construction access licence arrangements including a Temporary Road Closure Certification – Southern Area Works (Annerley Road / Cornwall Street / Kent Street) from BCC.

³ Surface properties refers to properties where an impact will occur at ground level as compared to volumetric properties where an impact occurs underground, e.g. where tunnels pass through a property boundary but 30m below ground level.

4.2.1.4 Conclusion

I have considered the project changes in land tenure at the Southern Portal worksite and I am satisfied that the requirements do not materially increase the environmental effects of the project. I am also satisfied that the additional land requirements needed to support the changed heavy vehicle access route is reasonable. An agreement to use the private land will be negotiated commercially between the landowner and the proponent. I have accepted the proposed change to Imposed Condition 1(a), in Appendix 1 to recognise the change in land requirements, which is discussed further in the next section of this report.

4.3 Assessment of changes sought to Imposed Conditions

4.3.1 Condition 1: General conditions

The proponent has requested changes to Imposed Condition 1(a) (including the design drawings) to reflect the boundary changes discussed in Section 4.2.

The proponent has also requested to amend condition 1(b) to correct an administrative error to replace the reference to 'Schedule 3' with 'Schedule 2' as a consequence of renumbering the Schedules in Appendix 1 of a previous CGCR.

Additionally, an administrative change is proposed to delete Condition 1(c) that is redundant as Appendix 3 was removed in the CGCR dated 16 July 2020 (i.e. the Appendix no longer exists but the condition still refers to it). These changes are depicted below, where the requested deletions are shown in ~~strikethrough~~ and additions are shown in red:

Table 4-1: Requested changes to Imposed Condition 1

Requested changes to the condition	
Condition 1. General conditions	
(a)	The project must be carried out generally in accordance with: <ul style="list-style-type: none">(i) the Cross River Rail Request for Project Change dated August 2020;(ii) the drawings provided at Volume 2, Cross River Rail Request for Project Change dated August 2020;(iii) (iii) the Cross River Rail Request for Project Change dated May 2020;(iv) (iv) the drawings provided at Volume 2, Cross River Rail Request for Project Change dated May 2020;(v) (v) amendments to the Project identified in the Cross River Rail Request for Project Change dated June 2018;(vi) (vi) amendments to the Project identified in the Cross River Rail Request for Project Change dated November 2018;(vii) (vii) the Cross River Rail Request for Project Change dated April 2019.
(b)	The proponent must notify the Coordinator-General and all nominated entities in Schedule 3 2 in writing of the commencement of Project Works and the commencement

Requested changes to the condition

of the commissioning and operational phases of each 'construction site' at least 20 business days prior to the relevant commencement date.

- (c) ~~The temporary coach terminal works must be carried out in accordance with the conditions imposed at Appendix 3.~~

As the change to the condition relates only to referencing the correct documentation and new documentation for the project, no changes to the previously assessed environmental impacts are required.

I accept the requested changes to Imposed Condition 1 and these changes are reflected in the revised set of Imposed Conditions at Appendix 1 of this document.

4.3.2 Condition 3: Design

The proponent has requested correction of an administrative error to replace the reference to 'Schedule 2' in existing conditions with 'Schedule 1' as a consequence of renumbering the Schedules in Appendix 1 of this report. This change is depicted below where the requested deletions are shown in ~~strikethrough~~ and additions are shown in **red**:

Table 4-2: Requested changes to Imposed Condition 3

Requested changes to the condition

Condition 3. Design

- (a) The project must achieve the Environmental Design Requirements in Schedule ~~2~~**1**.

I accept the proposed changes to Imposed Condition 3 and these changes are reflected in the revised set of Imposed Conditions at Appendix 1.

4.3.3 Condition 6: Reporting

I impose a change to Condition 6 to formalise an existing administrative arrangement between the proponent and DTMR where monthly reports are given to DTMR as the nominated entity with jurisdiction of Imposed Conditions, in addition to the Environmental Monitor and the Coordinator-General.

This change is depicted below, and deletions are shown in ~~strikethrough~~ and additions are shown in **red**:

Table 4-3: Change to Imposed Condition 6

Requested changes to the condition

Condition 6. Reporting

- (c) The Monthly Report must be provided to the Coordinator-General, ~~and~~ the Environmental Monitor **and entities with jurisdiction for Conditions**, and made available on the project website within six weeks of the end of the month to which the report relates, and continue to be available on the project website until commissioning is complete.

The amendment is reflected in the revised set of Imposed Conditions at Appendix 1.

4.3.4 Condition 10: Hours of work

4.3.4.1 Proposed changes to Condition 10

The proponent requested the following changes to Imposed Condition 10(a) and 10(d) in relation to extended work hours for surface works other than on rail corridor land:

- in Condition 10(a) remove the limitation of a 10:00pm conclusion of extended work hours on a road or busway at all worksites
- in Condition 10(d) add that these works be limited to the timeframes set in road permits by BCC or DTMR as the owners of the roads and to clarify the entity with control over access to roads.

The proponent also sought the following changes to Imposed Condition 10(a) and 10(d) in relation to extended work hours for surface works on rail corridor land:

- remove the limitation of 80 hours of continuous work for approved rail possessions (and add to Condition 10(d) that these works will align with timeframes set by an approved rail possession) at the following worksites:
 - Dutton Park
 - Southern Portal
 - Boggo Road.

The proponent requested a clarification to Imposed Condition 10(a) and 10(d) in relation to concrete deliveries:

- clarify that concrete deliveries required to support continuous activities are not constrained by Condition 10(a) Table 1 spoil haulage and materials/equipment delivery hours, and instead will be managed by condition 10(d).

The proponent also requested to correct a formatting error in condition 10(c)(iv) where the words 'may be undertaken outside the hours set out in Table 1' had been included in subpoint (iv) instead of applying to all of Condition 10(c)(i) - (iv).

The collective requested changes to Condition 10 are depicted on the following pages where deletions are shown in ~~strikethrough~~ and additions are shown in red:

Table 4-4: Requested changes to Imposed Condition 10

Requested changes to the condition
Condition 10. Hours of work
(a) Surface works for the Project are authorised to be undertaken within the hours of work set out in Table 1A.
Table 1A. Construction hours

Worksite	Surface works—standard hours	Extended work hours	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury stations	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession for the duration of the possession	24 hours, 7 days	Monday to Saturday: 6:30am – 6:30pm
Moorooka	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession for the duration of the possession	24 hours, 7 days	Monday to Saturday: 6:30am – 6:30pm
Clapham Yard	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession—80 hours continuous work	24 hours, 7 days	Monday to Friday: 6:30am – 7:30am, 9:00am – 2:30pm, 4:30pm – 6:30pm Saturday: 6:30am – 6:30pm
Southern portal	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession—80 hrs continuous work	24 hours, 7 days	24 hours, 7 days
Boggo Road Railway station	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession—80 hrs continuous work	24 hours, 7 days	Monday to Friday: 6:30am – 7:30am, 9:00am – 2:30pm, 4:30pm – 6:30pm Saturday: 6:30am – 6:30pm Additional hours during gazetted school holidays: Monday to Friday: 7:30am – 9:00am, 2:30pm – 4:30pm
Worksite	Surface works—standard hours	Extended work hours	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
Dutton Park Railway station	Monday to Saturday: 6:30am-6:30pm	For approved rail possession—80 hrs continuous work	n/a	24 hours, 7 days, except for: Monday to Friday: 7:00am – 9:00am, 4:30pm – 6:30pm

Woolloongabba Railway station	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm	24 hours, 7 days	24 hours, 7 days, except for: Monday to Friday: 7:00am – 9:00am, 4:30pm – 6:30pm
Albert Street Railway station	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm	24 hours, 7 days	Monday to Friday: 6:30am – 10:00pm Saturday: 6:30am – 6:30pm
Roma Street Railway station	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm	24 hours, 7 days	Monday to Friday: 6:30am – 7:30am, 9:00am – 4:30pm, 6:30pm – 10:00pm Saturday: 6:30am – 6:30pm
Northern portal	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession for the duration of the possession	24 hours, 7 days	Monday to Friday: 6:30am – 10:00pm Saturday: 6:30 am – 6:30pm
Exhibition Railway station	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession for the duration of the possession	24 hours, 7 days	Monday to Saturday: 6:30am – 6:30pm
Mayne Railway Yard	Monday to Saturday: 6:30am-6:30pm	Monday to Friday: 6:30pm – 10:00pm For approved rail possession for the duration of the possession	24 hours, 7 days	24 hours, 7 days

- (b) Project Works that are underground, or in a ventilated acoustic enclosure, may be undertaken at any time provided the environmental outcomes are achieved.
- (c) Works carried out because of an emergency that:
- (i) is endangering the life or health of a person; or
 - (ii) is endangering the structural safety of a building; or
 - (iii) is endangering the operation or safety of community infrastructure that is not a building; or
 - (iv) is required to prevent environmental harm,
- may be undertaken outside the hours set out in Table 1A.
- (d) ~~Despite Condition 10(a),~~ **Despite Condition 10(a),** the following work **(including associated spoil haulage and materials/equipment delivery, and concrete delivery)** may be undertaken **during the extended work hours in Table 1B,** ~~during Extended Work Hours as set out in Table 1 (despite any separate restrictions on equipment delivery hours listed in Table 1),~~ subject to compliance with a specific Construction Environmental Management Plan sub-plan in accordance with Condition 4:
- ~~(i) Project Works within rail corridor land;~~
 - ~~(ii) Project Works within a road reserve or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations;~~

- ~~(iii) Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures;~~
- ~~(iv) delivery of "in time" materials such as concrete, hazardous materials, large components and machinery;~~
- ~~(v) Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident.~~

Table 1B. Extended work hours

Description of works	Extended work hours
Project Works within rail corridor land	For the duration of an approved rail possession at all worksites except Clapham Yard. For Clapham Yard - for the duration of an approved rail possession - 80 hours continuous work
Project Works within busway land	During the hours authorised by DTMR for access to the busway for Project Works
Project Works within a road	During the hours authorised by Brisbane City Council or DTMR (as relevant) for access to the road for Project Works
Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	For transport, during the hours stated in the road access permit Otherwise, 6:30pm - 10:00pm, Monday to Friday

- (e) The works detailed in 10(d) may also be undertaken outside the hours set out in Table 1, only where written confirmation has been obtained from the entity with jurisdiction for Condition 10 prior to commencement of the specific works and subject to compliance with an updated and endorsed site-specific Construction Environmental Management Plan sub-plan in accordance with Condition 4.
- (f) Blasting must not occur on public holidays, and is only authorised to occur during the hours of 7:30am to 4:30pm Monday to Saturday, and not on Sundays or public holidays.
- (g) Prior to blasting events, at least 48 hours' notice must be provided to persons who may be adversely affected.

4.3.4.2 Reasons for the proposed changes to Condition 10

The proponent requested removing the limitations on extended hours for works that are authorised to occur only within particular times by other regulatory authorities. These include road possessions (i.e. having complete control of the authorised section of road), busway possessions and works that require road access permits (i.e. partial access to the corridor) where either BCC or DTMR are the relevant regulating authority; and works on rail corridor land where Queensland Rail (QR) regulates disruptions to the rail network through rail possession permits.

The granting of longer possessions by the relevant regulatory authority ensures that the proponent can have continued use of the road/busway/rail corridor for the duration of the permitted time (in the project's case - up to seven days) so that works can happen more efficiently by completing works in 'one go' instead of extending works out over weeks or longer as the time period is not continuous.

The proponent's rationale for the proposed change for road and busway possessions is so that the work hours approved in road or busway permits by BCC or DTMR are not in conflict with by the Imposed Condition's limit on extended work hours. The proponent has advised that the approved hours for road and busway possessions, or road access

permits, are typically hours that minimise disruption for users of the infrastructure and are often set for night time hours, including after 10pm. The proponent states the requested change would also allow a reduction in the overall number of possessions required for construction. As such, reducing the amount of time needed for construction works in areas closest to people, and on road and busways (to minimise impacts on users of these transit corridors).

Similar to the road and busway possessions, the duration of the works on rail corridor land would be limited to the timeframes specified in the QR rail possession permits. The proponent has advised that they meet regularly and work closely with QR about the project. QR did not provide a submission on this change application.

The proponent requested rail possession permits works to occur for no longer than seven consecutive days as per rail possession limits (Volume 1, section 5.2). The request for project change (Volume 1, section 5.4.1) identified that a five-day rail possession is approved to occur during the Christmas/New Year period from Friday 25 December 2020 to Wednesday 30 December 2020.

The proponent states that aligning the permitted periods of construction would allow greater flexibility to the works program, including the proponent being able to schedule the sequence of activities so that noisier activities occur during daytime periods.

4.3.4.3 Potential impacts from the proposed changes to Condition 10

The project change application included a noise impact assessment (see Volume 3 Attachment A) for a range of noise impact scenarios that may result from the proposed changes to extended work hours for Condition 10(a) and 10(d).

The proponent's noise impact assessment identified that the increase in noise (in comparison to the project as previously evaluated) at 11 out of 14 sites would be considered 'high' and that these were greatest for works within a roadway. The worst-case scenario for works within a road identified that potential noise impacts could be up to 18 dBA higher than previously evaluated at a site and that the highest potential noise could be up to 90 dBA at certain sites, if no mitigation measures or controls are applied – which would not be the case in practice.

Nineteen submissions commented on construction hours or potential noise impacts of night-time works related to the proposed changes to Condition 10(a) and 10(d) for works in road or busway corridors. The key concerns raised included:

- potential noise impacts of sleep deprivation and depression for nearby residents
- potential noise impacts on residents' amenity, health and well-being
- potential noise and air impacts on occupants of sensitive receptors such as nearby health facilities
- the potential noise and vibration impacts from night-time works and the ability of religious institutions to proceed with services
- requirements for advance notice to, and consultation with, nearby residents for noisy works

- the appropriateness of the noise impact assessment's units of measurement to describe the potential impacts
- the construction underway is already not meeting conditioned noise levels
- current working hours are already excessive
- current arrangements for noise management and mitigation are inadequate for managing the existing construction underway
- noise requirements are inconsistent with World Health Organisation recommendations
- noise mitigation measures proposed in the request for project change are inadequate and do not offer any form of compensation (e.g. alternate accommodation, insulation, financial compensation).
- there is a need to ensure adequate respite periods are provided for Directly Affected Persons in scenarios where extended periods of night-time noise generation are expected
- there is a need for ongoing improvement and updates to the NVMP through incorporating the outcomes from complaint resolution, regular reviews and audits
- recommend reporting on consultation with Directly Affected Persons and agreed mitigations (to be ongoing) and a regular evaluation of the success of this approach by the satisfaction of Directly Affected Persons.

There is also the potential for an increase in the duration of noise and vibration impacts at nearby sensitive receptors (located adjacent to the rail corridor) during rail possessions. The change application identified this proposed change is expected to involve the increased duration of noise and vibration resulting from operation of plant and equipment in the rail corridor 24 hours a day during the rail possession period, which is proposed to be extended to the duration of the possessions, and not limited to 80 hours continuous work.

The change application also identified that there are several locations in Buranda, Park Road and Dutton Park adjacent to the rail possession corridor with the potential to experience increased noise and vibration impacts for the duration of a permitted activity of up to seven days. However, this is a 'worst case' consideration. While longer duration works would be permitted to occur, the scheduled works will not be continuous for a seven day period.

The proponent states that although the requested change to Condition 10(a) would increase the duration of noise impacts (compared to rail possessions limited to up to 80 hours in continuous duration), the overall noise and vibration impact would be reduced over the project's construction period as fewer rail possessions would be required to construct the project. Such activities would still be managed in accordance with the relevant Imposed Conditions for noise and vibration. The change will allow the proponent to program and manage works so that noisier works are undertaken primarily during day-time work hours, with less intensive works undertaken at night.

The change application (Volume 3, Attachment C, Section 6.4) identified that the predicted worst-case scenario noise impacts will not occur along the length of the rail corridor for the whole time of the possession, as the works would move along the rail

corridor incrementally as the new infrastructure is being installed. The request for project change identified that noise emissions from this type of activity will gradually increase and then decrease as the works moves toward and away from each residence or business.

The proponent's worst-case noise impact assessment for works on rail corridor land is that the increase in noise (in comparison to the project as previously evaluated) at 11 out of 14 worksites would be considered 'high'. The worst-case scenario for works within a railway corridor identified that potential noise impacts could be up to 14 dBA higher than previously evaluated at a worksite and that the highest potential noise could be up to 86 dBA at certain sites, if no mitigation measures or controls are applied which would not be the case in practice.

Two submissions commented on construction hours or potential noise impacts of night-time works related to the proposed changes to Condition 10(a) and 10(d) for surface works on rail corridor land. The concerns raised included:

- extended disruption including the ability to work from home
- extended disruption to sleep which, over the extended possessions, would become untenable
- extended duration of noise above normal levels can be just as disconcerting to residents as extreme levels
- request for advance notice to, and consultation with, nearby residents for late-night works
- with the proposed change, exceedances up to 40 dBA above the noise goals may be experienced for the duration of a possession without constraints on night works and without respite requirements, and the impact of this would be exacerbated during Christmas and New Year when many people would choose to be spending the time at home
- where extended hours of construction noise occur over the Christmas and New Year period, special consideration is required to ensure extended hours do not result in unacceptable impacts to Directly Affected Persons and other sensitive receptors.

The proponent responded to submitter concerns with a consolidated Response to Submissions Report that has been published as part of the additional information for the change application. I also sought additional information from the proponent on the impact management and mitigation measures to inform my evaluation.

The proponent confirmed that the proposed change for longer rail possessions would reduce the total number of rail network closures, therefore reducing the impacts on commuters and freight rail operations. Furthermore, construction activities at the Southern Portal, Dutton Park and Boggo Road worksites will not be located in the one spot for the full duration of the rail possession.

The proponent also stated that the scenarios within the noise impact assessment assumed a worst-case noise event where noise levels are determined downwind, at the closest point of approach, and where all plant and equipment are in use at once. The proponent states that this worst-case scenario is unlikely to occur as not all activities

would occur at precisely the same time along the road corridor or be scheduled for the same night time periods.

The Response to Submissions Report also identified that the Community Engagement Plan outlines how the project will undertake communications and engagement with the community and stakeholders. This includes specific communications relating to works at night and engagement with identified Directly Affected Persons such as:

- when the works will occur, their duration, scale and intensity
- predicted noise impacts, the approach to mitigate noise impacts and the triggers for mitigation measures
- complaints management procedures during Project Works
- the role of the Community Relations Monitor, and how the Directly Affected Persons can contact the Community Relations Monitor.

4.3.4.4 Management and mitigation measures for the proposed change to Condition 10

The change application concludes that the establishment of the EMF through the Imposed Conditions provides a robust approach to manage identified impacts of the proposed changes to Condition 10(a) and 10(d), as all construction methodologies and mitigation measures are investigated and prepared to reduce impacts to the greatest extent possible in the context of the relevant goals by risk assessment analysis and impact modelling.

Under the EMF (discussed in Section 2.2.1), the current OEMP includes sub-plans that incorporate the environmental outcomes and performance criteria that must be met by the project in relation to, amongst other elements, noise and vibration. In the Noise and Vibration Sub-Plan they are:

Environmental Outcomes

The following environmental outcomes in relation to noise...are to be achieved for the Project:

- *Construction activities are designed, planned and implemented to maintain human health and wellbeing, to the extent reasonable and practicable.*
- *Construction activities generally are designed, planned and implemented to maintain daily patterns of activity, and to minimise sleep disturbance at night...*

Performance Criteria

The following performance criteria must be achieved throughout construction of the Project:

Air-borne Noise

- *Project Works are designed, planned and implemented to achieve the noise goals specified in Imposed Condition 11 to the extent reasonable and practicable.*

- *Where predictive modelling conducted prior to the commencement of works in a locality, indicates that the noise goals are likely to be exceeded:*
 - *potentially Directly Affected Persons must be identified and consulted regarding the potential impacts and the mitigation measures proposed to address the impacts;*
 - *mitigation measures must be developed in consultation with potentially Directly Affected Persons on a ‘case by case’ basis prior to commencement of the works; and*
 - *agreed mitigation measures must be included in a mitigation register and implemented prior to undertaking Project Works.*
- *Project Works occurring underground or within an effective acoustic enclosure, and achieving the goals for human health and wellbeing set out in Imposed Condition 11, may progress continuously while monitoring indicates noise levels remain below the goals..."*

Consequently, in the event noise impacts are modelled to exceed or monitored above the relevant goal—be it the day or night goals—engagement with potentially Directly Affected Persons⁴ is required to occur in advance. All mitigation measures to be implemented are to be included in the site-specific CEMP developed for the scope of works, which then is required to be endorsed by the independent Environmental Monitor as being consistent with the OEMP prior to the commencement of relevant Project Works (under Imposed Conditions 4 and 7).

The existing EMF framework provides a proactive regime for the identification of, and management and mitigation of construction impacts Directly Affected Persons.

4.3.4.5 Conclusion of the proposed changes for Condition 10

I have considered the information contained within the change application, submissions received, the proponent's responses to submissions and the potential impacts associated with the proposed changes. I have also considered the outcomes of the discussions between the proponent and my office on a revised structure to Table 1 in Imposed Condition 10 that sought to clarify the authorised hours of various Project Works.

I am satisfied that there will be a demonstrated need for the Project Works identified in the change application to be undertaken during the proposed extended work hours and acknowledge that these works will result in noise levels at sensitive places that exceed the noise goals specified in Imposed Condition 11. However, I accept that these impacts can be sufficiently mitigated to allow the specified Project Works to proceed as the noise impacts from the construction activities will be temporary and short term in nature, and the EMF establishes a mitigation process for potentially Directly Affected Persons.

⁴ an entity being either the owner or occupant of premises for which predictive modelling or monitoring indicates the project impacts would be above the performance criteria in the Imposed Conditions.

The changes in project hours have been sought to align with timeframes granted in permits by entities such as Queensland Rail, the Department of Transport and Main Roads and Brisbane City Council for works in rail, roads and busways.

The changes are sought as such works are usually only allowed to occur after hours, so that disruptions for road and rail users are minimised.

The changes will allow for a reduction in the overall number of rail, road and busway possession permits needed by ensuring the works can be finished in the permitted time granted by the authorities.

Importantly, this change does not authorise general construction activities to occur 24 hours, 7 days.

The authorised works are those that require continuous construction support, such as continuous concrete pours, pipe-jacking or other ground works to avoid a failure or a construction incident and these works cannot be undertaken reasonably nor practicably during standard hours. This includes spoil haulage, materials and equipment delivery and delivery of "in time" materials such as concrete, hazardous materials, and large components and machinery.

I note that the use of 'worst case scenario' noise modelling by the proponent has identified that the number and geographic extent of potentially Directly Affected Persons is significant along the Project Works area given the works are located in transport corridors within urban areas.

5. Conclusion

This report concludes my evaluation of the proposed project change pursuant to section 35I of the SDPWO Act.

I am satisfied that the requirements of the SDPWO Act have been met and that sufficient information has been provided to enable the evaluation of the proposed changes to the conditions of approval.

Accordingly, I impose the changes to the conditions for the Cross River Rail project as outlined in this report, subject to the conditions in Appendix 1.

I am satisfied that the EMF will manage the project's potential environmental impacts and ensures the proponent will consult and collaborate with stakeholders—including Directly Affected Persons—in advance of any project works. I am also satisfied that the complaints management approach required by the EMF is appropriate, and that the independent Environmental Monitor and Community Relations Monitor provide appropriate oversight of the implementation of the EMF ensure conditions are implemented.

In accordance with section 35K of the SDPWO Act, the Coordinator-General's report on the EIS for the project, and the Coordinator-General's change report, both have effect for the project. However, if the reports conflict, this Coordinator-General's change report prevails to the extent of the inconsistency with earlier reports. The proponent must implement all conditions in this report.

Appendix 1 of this change report replaces Appendix 1 of the change report dated 16 July 2020. Appendix 2 of this change report replaces Appendix 2 of the change report dated 16 July 2020, noting no changes have been made.

In accordance with section 35 of SDPWO Act, this report will lapse on 31 December 2024.

A copy of this report will be issued to the proponent.

A copy of this report and all relevant EIS assessment documentation are available on the Department of State Development, Infrastructure, Local Government and Planning's website at www.dsdmip.qld.gov.au/crr.

Appendix 1. Project-wide Imposed Conditions

Part A. Imposed Conditions (General)

Condition 1. General conditions

- (a) The project must be carried out generally in accordance with:
 - (i) the Cross River Rail Request for Project Change dated August 2020;
 - (ii) the drawings provided at Volume 2, Cross River Rail Request for Project Change dated August 2020;
 - (iii) the Cross River Rail Request for Project Change dated May 2020;
 - (iv) the drawings provided at Volume 2, Cross River Rail Request for Project Change dated May 2020;
 - (v) amendments to the Project identified in the Cross River Rail Request for Project Change dated June 2018;
 - (vi) amendments to the Project identified in the Cross River Rail Request for Project Change dated November 2018;
 - (vii) the Cross River Rail Request for Project Change dated April 2019.
- (b) The proponent must notify the Coordinator-General and all nominated entities in Schedule 2 in writing of the commencement of Project Works and the commencement of the commissioning and operational phases of each 'construction site' at least 20 business days prior to the relevant commencement date.

Condition 2. Outline Environmental Management Plan

- (a) Two months prior to the commencement of Project Work submit a final Outline Environmental Management Plan to the Coordinator-General for approval.
- (b) The Outline Environmental Management Plan must:
 - (i) Include the environment outcomes and performance criteria for each environmental element from the draft outline EMP except as amended by these conditions;
 - (ii) include possible mitigation measures, monitoring and reporting for each environmental element to achieve the environmental outcomes;
 - (iii) include an outline of:
 - (A) the Construction Environmental Management Plan
 - (B) the Commissioning Environmental Management Plan
 - (iv) be consistent with the Environmental Design Requirements in Schedule 1
 - (v) include the following sub-plans:
 - (A) Community and Stakeholder Engagement Plan
 - (B) Construction Worksite Management Plan
 - (C) Construction Traffic Management Plan (CTMP)
 - (D) Construction Vehicle Management Plan
 - (E) Water Quality Monitoring Plan
 - (F) Erosion and Sediment Control Plan
 - (G) Spoil Placement Management Plan
 - (H) Noise and Vibration Management Plan

- (I) Air Quality Management Plan
- (J) Settlement Management Plan
- (K) Non-Indigenous Cultural Heritage Management Plan
- (L) Indigenous Cultural Heritage Management Plan
- (vi) Be made available on the proponent's website once approved by the Coordinator-General and for the duration of the construction of the project and for a period of five years from commencement of operation.
- (c) Any further amendments to the Coordinator-General approved Outline Environmental Management Plan will be issued to the Coordinator-General 20 business days prior to the commencement of Relevant Project Works.

Part B. Imposed Conditions (Design)

Condition 3. Design

- (a) The project must achieve the Environmental Design Requirements in Schedule 1.

Part C. Imposed Conditions (Construction)

Condition 4. Construction Environmental Management Plan

- (a) Prior to the commencement of Project Work, a Construction Environmental Management Plan for those works (Relevant Project Work) must be developed by the Proponent and endorsed by the Environmental Monitor as being consistent with the Outline EMP and these imposed conditions.
- (b) The endorsed Construction Environmental Management Plan must be submitted to the Coordinator General at least 20 business days prior to the commencement of Relevant Project Works.
- (c) The Construction Environmental Management Plan must:
 - (i) describe the Relevant Project Work;
 - (ii) be based on predictive studies and assessments of construction impacts which have regard to the scale, intensity, location and duration of construction works, and location of Directly Affected Persons;
 - (iii) be generally consistent with the Outline EMP and incorporate its environmental outcomes and performance criteria;
 - (iv) incorporate and respond to the Imposed Conditions (Construction);
 - (v) demonstrate that the Imposed Conditions (Construction) will be complied with during Relevant Project Work;
 - (vi) incorporate the community engagement plan, including the complaints management process, in accordance with Condition 9;
 - (vii) where predictive studies indicate impacts beyond those provided for in the performance criteria, incorporate mitigation measures to achieve the environmental outcomes;
 - (viii) establish specific mitigation measures and processes for consultation with Directly Affected Persons for Project Works under Conditions 9(c), 11(c), and 11(e);
 - (ix) contain a program and procedures for ongoing monitoring to identify the effectiveness of mitigation measures in achieving the Imposed Conditions (Construction) and the environmental outcomes in (iii)

- (x) include a process for regular review and if required updating of the Construction Environmental Management Plan, including a process to review and implement additional or different mitigation measures in response to monitoring results;
- (xi) incorporate the EMP sub-plans required by the Imposed Conditions or as required by the approved Outline EMP.
- (d) The Construction Environmental Management Plan must be implemented for the duration of Relevant Project Work.
- (e) Relevant Project Work is authorised if it is undertaken in accordance with the Construction Environmental Management Plan.
- (f) The Construction Environmental Management Plan must be publicly available on the project website for the duration of the construction phase.
- (g) The Construction Environmental Management Plan may be updated.
 - (i) updates to the Construction Environmental Management Plan that include new or additional Relevant Project Work must be endorsed by the Environmental Monitor as being consistent with condition 2 before Relevant Project Work may proceed.
- (h) Updates to the Construction Environmental Management Plan that are limited to new or different mitigation measures for Managed Work may be endorsed by the Environmental Monitor.

Condition 5. Compliance

- (a) The proponent must notify the Environmental Monitor and the Coordinator-General in writing, within 48 hours after becoming aware of a Non-Compliance Event.
- (b) The notification must include:
 - (i) a description of the Non-Compliance Event, including details of the location, date and time of the Non-Compliance Event;
 - (ii) the name and contact details of a designated contact person;
 - (iii) an outline of actions that have been or will be taken to respond to the Non-Compliance Event.
- (c) Within 14 days following the notification of a Non-Compliance Event, written advice detailing the following information must be provided to the Environmental Monitor and the Coordinator-General:
 - (i) a description of the Non-Compliance Event, including details of the location, date and time of the Non-Compliance Event;
 - (ii) the name and contact details of a designated contact person;
 - (iii) the circumstances in which the Non-Compliance Event occurred;
 - (iv) details of any complaint in relation to the Non-Compliance Event;
 - (v) the cause of the Non-Compliance Event;
 - (vi) a description of the environmental effects of the Non-Compliance Event;
 - (vii) the results of any sampling or monitoring performed in relation to the Non-Compliance Event;
 - (viii) actions taken to mitigate the environmental effects of the Non-Compliance Event;
 - (ix) proposed actions to prevent a recurrence of the Non-Compliance Event, including timing and responsibility for implementation.
- (d) The Non-Compliance Event report must be made available on the project website and remain available for the duration of the construction phase for the project.

Condition 6. Reporting

- (a) The Proponent must prepare a Monthly Report that summarises compliance and monitoring results for the duration of construction works.
- (b) The Monthly Report must include:
 - (i) monitoring data required by the imposed conditions or Construction Environmental Management Plan undertaken for the period and, where required, an interpretation of the results;
 - (ii) details of any Non-Compliance Event, including a description of the incident, resulting effects, corrective actions, revised construction practices to prevent a recurrence, responsibility and timing;
 - (iii) reporting of complaints, including the number of complaints, description of issues, responses and corrective actions.
- (c) The Monthly Report must be provided to the Coordinator-General, the Environmental Monitor and all entities with jurisdiction over Imposed Conditions, and made available on the project website within six weeks of the end of the month to which the report relates, and continue to be available on the project website until commissioning is complete.
- (d) The Proponent must provide annual reports to the Coordinator-General and the Environmental Monitor (Annual Report) no later than 31 July in any year during the construction phase about compliance with the imposed conditions.
- (e) The Annual Report must include:
 - (i) a compliance evaluation table detailing the relevant imposed condition, whether compliance with the condition was achieved and how compliance was evaluated;
 - (ii) an evaluation of compliance in relation to the CEMP and its sub-plans;
 - (iii) a summary of any Non-Compliance Events during the reporting period;
 - (iv) a summary of any Non-Compliance Events during the previous reporting period, with details of site remediation activities, corrective actions taken or to be taken and revised practices implemented or to be implemented (as relevant).

Condition 7. Environmental Monitor

- (a) The Proponent must engage an independent, appropriately skilled and experienced entity, approved by the Coordinator-General, as the Environmental Monitor for the duration of construction.
- (b) The Proponent must ensure that the Environmental Monitor has reasonable site access and access to all information required to perform its function, including, without limitation:
 - (i) all approvals;
 - (ii) the Construction Environmental Management Plan;
 - (iii) results of all monitoring required under the Imposed Conditions (Construction) including through the Construction Environmental Management Plan;
 - (iv) all information relating to complaints, including access to the complaints database.
- (c) The Environmental Monitor must:
 - (i) monitor compliance with the imposed conditions during the construction of the project;
 - (ii) monitor compliance with the Construction Environmental Management Plan and sub-plans;
 - (iii) maintain a register of mitigation measures agreed between the Proponent and Directly Affected Persons (Mitigation Register);

- (iv) review the compliance reports required by Condition 5, and the monthly reports and annual reports required by Condition 6, and provide advice to the Coordinator-General and the Proponent on the contents and adequacy of those reports;
- (v) review the results of monitoring, which may be verified by the Environmental Monitor including by independent monitoring;
- (vi) provide advice to the Proponent about compliance with the Imposed Conditions for construction, including by providing the results of independent monitoring where required;
- (vii) provide advice to the Proponent about issues raised in complaints and the response to complaints, including advice from the Community Relations Monitor;
- (viii) endorse the Construction Environmental Management Plan as consistent with the Outline EMP and complying with the Imposed Conditions (Construction);

Condition 8. Community Relations Monitor

- (a) The proponent must engage an independent, appropriately skilled and experienced entity, approved by the Coordinator-General, as the Community Relations Monitor for the duration of construction.
- (b) The Community Relations Monitor must:
 - (i) review and provide advice to the Environmental Monitor on the community engagement plan required by Condition 9;
 - (ii) receive monthly reports from the proponent on complaints;
 - (iii) attend each meeting between the Proponent and a Directly Affected Person to consult on mitigation measures, including providing input on standard responses for similar impacts;
 - (iv) provide advice to the Environmental Monitor in relation to complaints, community engagement and consultation on mitigation measures;
 - (v) be available to members of the community in accordance with Condition 9(f)(vi).

Condition 9. Community engagement plan

- (a) The Proponent must develop a community engagement plan as part of the Construction Environmental Management Plan consistent with the Outline EMP's Community and Stakeholder Engagement Plan.
- (b) The community engagement plan must be given to the Community Relations Monitor for advice at least 10 business days prior to the Construction Environmental Management Plan being provided to the Environmental Monitor.
- (c) The community engagement plan must provide for:
 - (i) Directly Affected Persons to be consulted prior to commencement of Project Works and ongoing thereafter about Project Works, predicted impacts and mitigation measures;
 - (ii) Directly Affected Persons to be consulted about possible mitigation measures;
 - (iii) local communities near Project Works to be informed about the nature of construction, including the timing, duration and predicted impacts of the works in advance of their commencement;
 - (iv) information to be provided to public transport, road users, pedestrians and cyclists about the predicted effects of Project Works on road, rail and pedestrian and cycle network operations, in advance of their commencement;
 - (v) specific community consultation plans for identified key stakeholders;

- (vi) implementation of an Indigenous employment policy, providing for Indigenous training and employment opportunities;
 - (vii) a process for advance notification to local communities of Project Works, including the timing, duration, predicted impacts and mitigation measures, which is available on the project website and through other media.
- (d) The community engagement plan must incorporate a complaints management system developed specifically for the Project, which is established prior to the commencement of Project Works.
 - (e) The complaints management system must deliver a prompt response to community concerns with relevant information, action where required, and reporting of incidents.
 - (f) As a minimum, the complaints management system must include the following elements:
 - (i) a procedure for receiving complaints on a 24 hour, seven days a week basis, during Project Works;
 - (ii) a mechanism for notifying the community of the complaints procedure and how it may be accessed;
 - (iii) a process for registering and handling complaints received, including a database for tracking of complaints and actions taken in response;
 - (iv) a procedure for verifying complaints through monitoring and detailed investigation, and escalating and resolving verified complaints;
 - (v) a procedure for complaints to be notified to the Community Relations Monitor, including information about the complaint and its resolution;
 - (vi) access by the community to the Community Relations Monitor; and
 - (vii) regular reporting via the monthly environmental report, to the community of complaints and corrective actions, maintaining appropriate confidentiality.
 - (g) All information regarding complaints, including the information collected in Condition 9(f)(iii) must be made available to the Community Relations Monitor.

Condition 10. Hours of work

- (a) Surface works for the Project are authorised to be undertaken within the hours of work set out in Table 1.
- (b) Project Works that are underground, or in a ventilated acoustic enclosure, may be undertaken at any time provided the environmental outcomes are achieved.
- (c) Project Works may be undertaken outside the hours set out in Table 1 where carried out because of an emergency that:
 - (i) is endangering the life or health of a person; or
 - (ii) is endangering the structural safety of a building; or
 - (iii) is endangering the operation or safety of community infrastructure that is not a building; or
 - (iv) is required to prevent environmental harm.
- (d) Extended Hours Works may only be undertaken subject to compliance with a specific Construction Environmental Management Plan sub-plan in accordance with Condition 4.
- (e) Extended Hours Works may also be undertaken outside the hours set out in Table 1, where written confirmation has been obtained from the entity with jurisdiction for Condition 10 prior to commencement of the specific works and subject to compliance with an updated and endorsed site-specific Construction Environmental Management Plan sub-plan in accordance with Condition 4.

Table 1. Construction hours

Worksite	Surface works- standard hours	Extended hours work <small>(includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)</small>	Managed Work	Spoil haulage and materials/ equipment delivery <small>(excluding concrete deliveries)</small>	
Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury stations	Monday to Saturday: 6:30am- 6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days	Monday to Saturday: 6.30am - 6.30pm
		For approved rail possessions	Up to 24 hours per day, for the duration of the possession		
		Project Work in a road that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows	At any time permitted by the road authority, or otherwise, Monday to Friday 6:30pm – 10:00pm		

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm	
Moorooka	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe- jacking or other forms of ground support necessary to avoid a failure or construction incident For approved rail possessions Project Work in a road that cannot be undertaken reasonably nor practicably during standard hours due to	Monday to Friday: 6:30pm - 10:00pm Up to 24 hours per day, for the duration of the possession At any time permitted by the road authority, or otherwise, Monday to Friday	24 hours, 7 days Monday to Saturday: 6:30am-6:30pm

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)	
		potential disruptions to peak traffic flows	6:30pm – 10:00pm		
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm		
Clapham Yard	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days	Monday to Friday: 6:30am – 7:30am, 9:00am – 2:30pm, 4:30pm – 6:30pm Saturday: 6:30am – 6:30pm
		For approved rail possessions	80 hours continuous work		

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)	
		Project Work in a road that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows	At any time permitted by the road authority, or otherwise, Monday to Friday 6:30pm – 10:00pm		
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm		
Southern portal	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days	24 hours, 7 days

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)	
		For approved rail possessions	Up to 24 hours per day, for the duration of the possession		
		Project works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations	At any time permitted by the road or busway authority, or otherwise, Monday to Friday 6:30pm – 10:00pm		
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm		
Boggo Road Railway station	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days	Monday to Friday: 6:30am – 7:30am, 9:00am – 2:30pm, 4:30pm – 6:30pm Saturday: 6:30am – 6:30pm

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)	
		necessary to avoid a failure or construction incident		Additional hours during gazetted school holidays:	
		For approved rail possessions	Up to 24 hours per day, for the duration of the possession	Monday to Friday: 7:30am – 9:00am, 2:30pm – 4:30pm	
		Project Works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations	At any time permitted by the road or busway authority, or otherwise, Monday to Friday 6:30pm – 10:00pm		
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm		
Dutton Park Railway station	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support,	Monday to Friday: 6:30pm - 10:00pm	n/a	24 hours, 7 days, except for:

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
		such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident		Monday to Friday: 7:00am – 9:00am, 4:30pm – 6:30pm
		For approved rail possessions	Up to 24 hours per day, for the duration of the possession	
		Project Works in a road that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows	At any time permitted by the road authority, or otherwise, Monday to Friday 6:30pm – 10:00pm	
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm	

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
Woolloongabba Railway station	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days, except for: Monday to Friday: 7:00am – 9:00am, 4:30pm – 6:30pm
		Project Works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations	At any time permitted by the road or busway authority, or otherwise, Monday to Friday 6:30pm – 10:00pm	
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm	

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
Albert Street Railway station	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days Monday to Friday: 6:30am – 10:00pm Saturday: 6:30am – 6:30pm
		Project Works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations	At any time permitted by the road or busway authority, or otherwise, Monday to Friday 6:30pm – 10:00pm	
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm	

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
Roma Street Railway station	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	Monday to Friday: 6:30am – 7:30am, 9:00am – 4:30pm 6:30pm – 10:00pm Saturday: 6:30am – 6:30pm
		For approved rail possessions	Up to 24 hours per day, for the duration of the possession	
		Project Works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations	At any time permitted by the road or busway authority, or otherwise, Monday to Friday 6:30pm – 10:00pm	
		Project Works involving the transport, assembly or decommissioning of	During the hours stated in the road access permit or otherwise	

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
		oversized plant, equipment, components or structures	Monday to Friday: 6:30pm - 10:00pm		
Northern portal	Monday to Saturday: 6:30am-6:30pm	<p>Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident</p> <hr/> <p>For approved rail possessions</p> <hr/> <p>Project Works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations</p>	<p>Monday to Friday: 6:30pm - 10:00pm</p> <hr/> <p>Up to 24 hours per day, for the duration of the possession</p> <hr/> <p>At any time permitted by the road or busway authority, or otherwise,</p> <p>Monday to Friday 6:30pm – 10:00pm</p>	24 hours, 7 days	<p>Monday to Friday: 6:30am – 10:00pm</p> <p>Saturday: 6:30am – 6:30pm</p>

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm	
Exhibition Railway station	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident For approved rail possessions Project Works in a road or busway that cannot be undertaken reasonably nor practicably during standard hours due to	Monday to Friday: 6:30pm - 10:00pm Up to 24 hours per day, for the duration of the possession At any time permitted by the road or busway authority, or otherwise,	24 hours, 7 days Monday to Saturday: 6:30am – 6:30pm

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)	
		potential disruptions to peak traffic flows or bus operations	Monday to Friday 6:30pm – 10:00pm		
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: 6:30pm - 10:00pm		
Mayne Railway Yard	Monday to Saturday: 6:30am-6:30pm	Project Works that require continuous construction support, such as continuous concrete pours, pipe-jacking or other forms of ground support necessary to avoid a failure or construction incident	Monday to Friday: 6:30pm - 10:00pm	24 hours, 7 days	24 hours, 7 days
		For approved rail possessions	Up to 24 hours per day, for the duration of the possession		

Worksite	Surface works- standard hours	Extended hours work (includes spoil haulage, materials/equipment delivery to support extended work hours activities, and delivery of "in time" materials such as concrete, hazardous materials, large components and machinery)	Managed Work	Spoil haulage and materials/ equipment delivery (excluding concrete deliveries)
		Project Works in a road that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows	At any time permitted by the road authority, or otherwise, Monday to Friday <hr/> 6:30pm – 10:00pm	
		Project Works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures	During the hours stated in the road access permit or otherwise Monday to Friday: <hr/> 6:30pm - 10:00pm	

- (f) Blasting must not occur on public holidays, and is only authorised to occur during the hours of 7:30am to 4:30pm Monday to Saturday, and not on Sundays or public holidays.
- (g) Prior to blasting events, at least 48 hours' notice must be provided to persons who may be adversely affected.

Condition 11. Construction Noise and Vibration

- (a) Project Works must aim to achieve the project noise goals for human health and well-being presented in Table 2 at a Sensitive Place.

Table 2. Noise goals (internal) for Project Works

	Monday – Saturday 6.30am – 6.30pm	Monday – Friday 6.30pm – 10.00pm (Gabba, CBD only)	Monday – Saturday 6.30pm – 6.30am Sundays, Public Holidays	For Blasting Monday – Saturday 7.30 am – 4:30 pm only
Continuous (LA_{eq adj})(1hr)	AS 2107 Maximum design level	40 dBA LA _{eq adj} (1hr)	35 dBA LA _{eq adj} (1hr)	
Intermittent (LA_{10adj})(15min)	AS 2107 Maximum design level + 10 dBA	50 dBA LA _{10, adj}	42 dBA LA _{10 adj}	130 dB Linear Peak

Notes

1. All goals are internal noise levels for human health and well-being outcomes.
2. Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in the relevant State guideline, such as the Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (currently under review).
3. Adjustments (adj) will be applied as outlined in the Department of Environment and Science Noise Measurement Manual Version 4 August 2013.

- (b) During construction monitor and report on noise and vibration in accordance with the Noise and Vibration Management Plan, a sub-plan of the Construction Environmental Management Plan.
- (c) Project Works predicted to or monitored as generating noise levels more than 20dBA (LA_{10 adj} (15 min)) above the relevant goal in Table 2. are authorised to occur in a locality only:
 - (i) when advance notification and consultation has been undertaken with Directly Affected Persons or potentially Directly Affected Persons about the particular predicted impacts and the approach to mitigation of such impacts;
 - (ii) where mitigation measures addressing the particular predicted or measured impacts have been developed on a 'case by case' basis in consultation with Directly Affected Persons;
 - (iii) where the mitigation measures are incorporated in a mitigation register and implemented prior to undertaking the Project Works;
 - (iv) between the hours 7:00am to 6:00pm Monday to Friday, with a respite period between 12:00noon and 2:00pm each day with the respite only applying where generating noise levels more than 20dBA LA_{10 adj} (15 min) at a Sensitive Place that is occupied;
- (d) Condition 11(c)(iv) does not apply to Extended Hours Works.

(e) Project Works must aim to achieve the construction vibration goals in Table 3.

Table 3. The construction vibration goals

Receiver type	Cosmetic Damage			Human comfort (mm/s PPV)		Sensitive building contents (mms/PPV)
	Continuous vibration (mm/s PPV)	Transient vibration (mm/s PPV)	Blasting vibration (mm/s PPV)	Day	Night	
Residential	According to BS7385 reduced by 50% ⁴	According to BS7385	50 ¹	According to AS2670	0.5 ²	
Commercial	According to BS7385 reduced by 50% ⁴	According to BS7385	50	According to AS2670	-	0.5 ³
Heritage structures	2	-	10	-	-	

Notes:

1. All residential receivers in the vicinity of the Project blasting sites are regarded as reinforced or framed structures (i.e. BS7385)
2. Residential sleep disturbance
3. Equipment specific vibration criteria are required for highly sensitive equipment (i.e. electron microscopes, MRI systems or similar), as part of future site-specific detailed investigations
4. If resonance is present, or if investigation to detect resonance were not able to be undertaken due to a lack of access

- (f) Where vibration protection criteria are available for sensitive building contents, predictive modelling must take into account the manufacturer's specifications for tolerance to vibration. To the extent reasonable and practicable, those specifications apply in lieu of the construction vibration goals in Table 3. Where predictive modelling indicates the specified criteria would not be achieved by the Project Works, such works may proceed only in accordance with specific mitigation measures agreed with the potentially Directly Affected Persons.
- (g) Project Works predicted to or monitored as generating vibration levels more than 2mm/s for continuous vibration and 10mm/s for transient vibration may occur only:
- (i) between the hours 7:00am to 6:00pm Monday to Friday, with a respite period between 12:00noon and 2:00pm each day with the respite only applying where generating vibration levels more than those levels nominated in Table 3 (Human Comfort) at a Sensitive Place that is occupied; or
 - (ii) in accordance with the mitigation measures developed in consultation with and agreed by Directly Affected Persons that are incorporated in the Mitigation Register.

Condition 12. Property Damage

- (a) Prior to the commencement of Project Works, predictive modelling must be undertaken of potential ground movement that may be caused by the Project Works. Such predictive

modelling must ascertain the potential for damage due to ground movement being caused to property by Project Works.

- (b) Where predictive modelling indicates the Project Works would lead to impacts above the vibration goals for cosmetic damage in Table 3, the proponent must prepare and submit a property damage sub-plan, prior to the commencement of such works, as part of the Construction Environmental Management Plan. The property damage sub-plan must set out the procedure for:
 - (i) advance communication with potentially Directly Affected Persons;
 - (ii) procedures for building condition surveys both in advance of and following Project Works, including provision for consultation with property owners and occupants;
 - (iii) monitoring to be undertaken for potential impacts to property; and
 - (iv) mitigation measures.
- (c) Where a post-construction building condition survey identifies that property damage has occurred as a consequence of the Project Works, such damage must be repaired as soon as practicable by the Proponent at no cost to the property owners. Such repairs must be undertaken in consultation with the property owners and occupants and must return the premises at least to the condition existing prior to commencement of Project Works. The Proponent must agree the timing, method and extent of works required with the affected landowner and must gain permission to undertake such reparation works prior to their commencement.

Condition 13. Air quality

- (a) Project Works must aim to achieve the goals in Table 4.

Table 4. Air quality criteria and goals

Criterion	Air quality indicator	Goal	Averaging period
Human Health	Total Suspended Particulates (TSP)	90 µg/m ³	1 year
	Particulate matter ((PM ₁₀))	50 µg/m ³	24 hours
		25 µg/m ³	1 year
Nuisance	TSP	80 µg/m ³	24 hours
	Deposited dust	120 mg/m ² /day	30 days

Notes:

1. When monitored in accordance with the most recent version of AS3580.9.6 Determination of suspended particulate matter – PM10 high volume sampler with size-selective inlet – Gravimetric method. OR AS/NZS 3580.9.9: 2017 Methods for sampling and analysis of ambient air. Determination of suspended particulate matter - PM10 low volume sampler - Gravimetric method.
2. When monitored in accordance with the most recent version of AS/NZS 3580.9.3:2003 Determination of suspended particulate matter - Total suspended particulate matter (TSP) - High volume sampler gravimetric method or (TSP) low volume sampler – Gravimetric method.
3. When monitored in accordance with the most recent version of AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method

- (b) During construction monitor and report on air quality in accordance with the Air Quality Management Plan, a sub-plan of the Construction Environmental Management Plan.

Condition 14. Traffic and transport

- (a) Project construction traffic must be managed to avoid or minimise adverse impacts on road safety and traffic flow, public transport, freight rail movements, pedestrian and cyclist safety, and property access.

- (b) During construction workforce car parking must be provided and managed to avoid workforce parking on local streets.
- (c) Access for emergency services to project worksites and adjoining properties must be maintained throughout the construction phase.
- (d) Practicable access is maintained to adjacent properties throughout the construction phase.
- (e) Heavy construction vehicles use only designated routes for spoil haulage and deliveries of major plant, equipment and materials, in accordance with the Construction Environmental Management Plan. The designated haulage routes for each worksite must follow major or arterial roads to the extent practicable and be developed in consultation with the Department of Transport and Main Roads and the Brisbane City Council in preparation of the Construction Environmental Management Plan.
- (f) The Construction Traffic Management Plan must be supported by a road safety assessment for the spoil haulage route.
- (g) Construction traffic must operate within the requirements of a construction traffic management sub-plan (Construction Traffic Management Plan) incorporated within the Construction Environmental Management Plan.
- (h) The Construction Traffic Management Plan must include:
 - (i) the proposed access to worksites, with local or minor roads only used where unavoidable to access a project worksite;
 - (ii) a process for advance notice to Directly Affected Persons and local communities within the vicinity of the spoil haulage routes and worksite accesses;
 - (iii) local traffic management measures developed in consultation with Brisbane City Council for key intersections:
 - (A) in Bowen Hills including Bowen Bridge Road, College Road and O'Connell Terrace;
 - (B) in the CBD including Albert Street, Charlotte Street, Elizabeth Street and Roma Street;
 - (C) at Woolloongabba including Leopard Street, Stanley Street, Vulture Street and Main Street;
 - (D) at Dutton Park including Annerley Road, Peter Doherty Street, Joe Baker Street and Boggo Road, as well as Kent Street, Cornwall Street and Ipswich Road;
 - (E) in the area of the Fairfield to Salisbury stations and Clapham Yard works.
 - (iv) specific traffic management measures developed in consultation with other key stakeholders, including:
 - (A) the department administering the *Economic Development Act 2012* with regards traffic management in the Queens Wharf Brisbane priority development area;
 - (B) Queensland Rail about maintaining access to railway stations; and
 - (C) the department administering the *Transport Infrastructure Act 1994* and the Brisbane City Council about maintaining operations for bus services along streets affected by the Project Works.
- (i) Project Works must be designed, planned and implemented to maintain acceptable footpath and cycle paths in areas adjacent to project worksites in terms of capacity, legibility and pavement condition. The proponent must consult with the Brisbane City

Council and Queensland Rail about changes in pedestrian and cycle paths required to facilitate Project Works.

Condition 15. Water quality

- (a) Discharge of groundwater from Project Works must comply with:
 - (i) the Brisbane River Estuary environmental values and water quality objectives (Basin no. 143 - mid-estuary) in the Environmental Protection (Water) Policy 2009;
 - (ii) in the vicinity of Moolabin Creek, Yeerongpilly - Oxley Creek - Lowland freshwater environmental values and water quality objectives (Basin no. 143 (part) - including all tributaries of the creek) in the Environmental Protection (Water) Policy 2009.

Note that surface water runoff and dewatering activities from sediment basins and surface excavations associated with surface construction works is managed in accordance with Imposed Condition 18.

- (b) During construction monitor and report on water quality in accordance with the Water Quality Management Plan, a sub-plan of the Construction Environmental Management Plan.

Condition 16. Water resources

- (a) Prior to the commencement of Project Works involving excavation, the Proponent must undertake predictive modelling of the potential for groundwater drawdown. The predictive modelling must be based on validated monitoring data and must address the likely extent of any drawdown over time, up to the time when such movement reaches equilibrium.
- (b) Project Works must be designed, planned and implemented to avoid where practicable and otherwise minimise the inflow of groundwater to the Project Works, including excavations, the underground stations and tunnels, having regard for the predictive modelling.
- (c) The Proponent must monitor the inflow of groundwater to the Project Works and compare monitoring data with the predictive modelling. If the rate of groundwater inflow rate exceeds 1L/sec in any worksite, the proponent must revise work methods and devise and implement mitigation measures as soon as practicable.

Condition 17. Surface water

- (a) For underground tunnels and stations - Project Works, and worksites, must be designed and implemented to avoid inundation from stormwater due to a 2 year (6hr) ARI rainfall event and flood waters due to a 5 year ARI rainfall event.
- (b) A Flood Management Plan that applies to all worksites affected by tributary or creek flooding (in a 5 year ARI flood event and stormwater during a 2 year ARI rainfall event) must be endorsed by the independent Environmental Monitor prior to the commencement of Relevant Project Work. A Flood Management Plan is not relevant to flooding of the Brisbane River (main channel).
- (c) The Flood Management Plan must include, as a minimum:
 - (i) general description of the Relevant Project Works
 - (ii) flood assessment
 - (iii) specific flood management measures, including:
 - (A) appropriate storage of materials and equipment
 - (B) early warning indicators
 - (C) risk management for predicted rainfall events
 - (D) risk management for predicted tidal flooding events for works in the tidal zone
 - (E) risk management for unpredicted flood events

- (iv) Tidal works management for works in the tidal zone, including:
 - (A) barge and marine equipment details
 - (B) barge mooring plan
 - (C) vessel traffic management plan
 - (D) marking of navigational hazards.
- (d) Project works must be designed and implemented to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.

Condition 18. Erosion and sediment control

- (a) An erosion and sediment control sub-plan that is consistent with the Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52 – Erosion and Sediment Control must be submitted as part of the Construction Environmental Management Plan.

Condition 19. Acid sulphate soils

- (a) Acid sulphate soils must be managed in accordance with the methods and requirements of the latest edition of the *Queensland Acid Sulphate Soil Technical Manual*.

Condition 20. Landscape and open space

- (a) Project Works are designed and implemented to minimise impacts on landscape and open space values.
- (b) Project works and worksites in Victoria Park must be designed, planned and implemented to avoid, or minimise the loss of trees and ornamental plantings, and must minimise the area of the park directly impacted during such works.
- (c) Worksites in Victoria Park must be enclosed with a visually solid screen and any night lighting including security lighting must be situated to minimise the spill of light beyond the worksite enclosures.
- (d) Existing pathways and recreational facilities in Victoria Park must be relocated within the park for the duration of the works, in consultation with the Brisbane City Council. Upon completion of the project works, such pathways and facilities must be re-established in locations in the park in consultation with the Brisbane City Council.

Condition 21. Worksite rehabilitation

- (a) Worksites for project infrastructure, such as the surface connections, stations and ancillary buildings must be rehabilitated as soon as practicable upon completion of the works.
- (b) All other worksites required to support commissioning activities must be rehabilitated as soon as practicable on completion of commissioning or sooner where possible.
- (c) Rehabilitation must address soil erosion and sedimentation, dust nuisance and landscape and visual impact.
- (d) Any planting, landscaping and streetscape works undertaken as part of rehabilitation must be undertaken in accordance with landscape and urban design plans prepared in consultation with the Brisbane City Council.

Part D. Imposed Conditions (Commissioning)

Condition 22. Environmental design requirements

- (a) The Proponent must conduct such testing and monitoring as is necessary to demonstrate that the Environmental Design Requirements in Schedule 1 have been satisfied.

- (b) At the completion of Commissioning, the Proponent must give written notice to the Coordinator-General that the Project has achieved the Environmental Design Requirements in Schedule 1.

Condition 23. Commissioning

- (a) Commissioning may be carried out in stages.
- (b) Testing for commissioning must be supported by advanced notice to local residents and businesses.
- (c) Testing for commissioning must not cause an exceedance of the goals in Table 2, Table 3, Table 4 or Condition 15.

Schedule 1. Environmental Design Requirements

1. Traffic and transport

- (a) Emergency access and evacuation for each station and the tunnel is designed in consultation with the Emergency Service Authorities.
- (b) Station plazas and forecourts are of a sufficient size and dimension to avoid peak pedestrian flows spilling onto adjacent carriageways. Where the overflow of pedestrians onto carriageways cannot be avoided, local traffic management measures addressing such circumstances must be designed and implemented prior to the commencement of Project operations.
- (c) Pedestrian and cycle pathways in the vicinity of stations are designed in accordance with Rail Infrastructure Manager's and TMR's requirements.
- (d) The design of driveways and roadworks for the Project avoid conflicts between construction traffic and cyclists and pedestrians.
- (e) New footpaths, pedestrian walkways and pedestrian road crossings in the vicinity of stations are designed, in consultation with BCC and emergency services authorities, to allow safe and efficient pedestrian movement during peak periods and, where applicable, major events at the Brisbane Cricket Ground (Woolloongabba station), Lang Park (Roma Street station) and the RNA Showgrounds (Exhibition station).
- (f) The Project design provides for pedestrian connectivity between the PA Hospital, Boggo Road Busway station and Park Road Railway station, and incorporates appropriate crime prevention through environmental design (CPTED) principles and Disability Discrimination Act 1992 (DDA) compliant vertical transport facilities.

2. Air Quality

- (a) Ventilation outlets from underground stations are designed and sited so as not to cause an increase in air temperature of more than one degree Celsius, measured as an hourly average, or concentrations of ambient air contaminants that exceed air quality objectives.
- (b) The Project is designed so that it does not cause the air quality objectives specified in Table 5 to be exceeded.
- (c) The ventilation outlets are designed to avoid discharging directly into an air intake for any other ventilation or air conditioning system that is in place at the time of detailed design and construction of the relevant ventilation outlet.

Table 5. Ambient air quality outcomes

Pollutant	Air Quality Objective	Average Period
Total Suspended Particulates (TSP)	90 µg/m ³	Annual
Particulates as PM10 (<10 µm)	50 µg/m ³	24 hours
	25 µg/m ³	Annual

3. Noise and Vibration

- (a) Where practicable, the Project is designed to achieve the following noise criteria for railway surface track airborne noise emissions:
 - (i) 65 dBA, evaluated as the 24 hour average equivalent continuous A-weighted sound pressure level;

- (ii) 87 dBA, evaluated as a Single Event Maximum sound pressure level.

Note: The Single Event Maximum (SEM) Sound Level will be calculated as follows:

- If the number of single events due to train passing is larger than 15 over a 24-hour period, use the arithmetic average of the maximum levels for the highest 15 events.
 - If the number of single events due to train passing is equal to or less than 15 over a 24-hour period, use the arithmetic average of the maximum levels for all the train events (e.g. if a total of 13 passes occur over a 24-hour period, use the arithmetic average of all 13 movements).
 - Noise modelling or monitoring activities aimed at assessing performance against the Planning Levels must be undertaken 1 metre from the most exposed façade of an affected building an 0.5 metres below the eave height.
- (b) Where practicable, the Project is designed to achieve the goals for ground-borne noise provided in Table 6 and for vibration provided in Table 7.
- (c) Ventilation systems, mechanical plant, and electricity feeder stations at or near stations are designed and sited to operate within the noise goals outlined in Table 8.

Table 6. Ground-borne noise design criteria (rail operations) – tunnels and underground station

Receiver	Time of day	Internal noise design criteria (dBA)
Residential	07:00-22:00	40dBA
	22:00-07:00	35dBA
Schools, educational institutions, places of worship.	When in use	40dBA to 45dBA
Retail areas	When in use	50dBA to 55dBA
General office areas	When in use	45dBA
Private offices and conference rooms	When in use	40dBA
Theatres	When in use	35dBA

Table 7. Ground-borne vibration design criteria (rail operations)

Receiver type	Period	Vibration goal (vibration velocity)
Residential	Day/ night	106dBV (0.2 mm/s)
Commercial and community facilities (including schools and places of worship)	When in use	112dBV (0.4 mm/s)
Industrial	When in use	118dBV (0.8 mm/s)
Sensitive equipment within medical or research facilities	When in use	82dBV (0.013 mm/s)

Table 8. Mechanical plant noise goals (operations)

Receiver	Time of day	Background (b/g) noise creep dBA LA ₉₀ (1 hour)	Acoustic quality objectives dBA LA _{eq} (1 hour)
Residential (for outdoors)	07:00 - 22:00	b/g + 0	50
	22:00 - 07:00	b/g + 000	-

Receiver	Time of day	Background (b/g) noise creep dBA LA ₉₀ (1 hour)	Acoustic quality objectives dBA LA _{eq} (1 hour)
Residential (for indoors)	07:00 - 22:00	-	35
	22:00 - 07:00	-	30
Library and educational institution (for indoors)	When in use	-	35
Commercial and retail activity (for indoors)	When in use	-	45

4. Settlement

- (a) Detailed design of the alignment and underground stations will be informed by a detailed ground settlement analysis, based on hydrogeological and geological modelling
- (b) The settlement analysis will indicate the predicted horizontal and vertical extent of ground settlement for the Project Works and the time period over which such ground settlement would occur.

5. Hydrology

- (a) A hydrogeological model will be developed during detailed design and before construction of relevant sections to determine ground conditions along the tunnel section.
- (b) Further borehole investigations, groundwater monitoring and permeability testing at the station locations and along the tunnel alignment to identify and characterise any major transmissive features and better constrain the local hydrogeological model for detailed design.
- (c) Review available bore construction records and target aquifers to determine the suitability of monitoring bores installed during the geotechnical investigations for ongoing groundwater monitoring for construction and commissioning. Following this review, additional bores may be proposed to address gaps identified in the groundwater monitoring network.
- (d) Identify through surveys and consultation, water bores in the area potentially affected by groundwater drawdown and implement measures to mitigate potential effects on identified bores.
- (e) In the event a new 'groundwater feature' (e.g. areas of high groundwater flow/ yield) is identified along the Project alignment, further detailed groundwater monitoring would be undertaken to characterise the feature and identify potential impacts to the environment. Additional management measures would be developed, where required.
- (f) Develop and implement design measures and construction methods to minimise groundwater inflows in to the construction area.
- (g) The Project design provides for the capture of groundwater seepage, should it enter the underground structures, and the subsequent treatment of such groundwater prior to its release to an approved discharge point.
- (h) Where the project design anticipates groundwater entering underground structures, the design provides:
 - (i) measures to minimise settlement due to project-induced drawdown;
 - (ii) measures to ensure structural integrity and Project operational safety; and
 - (iii) measures to minimise the risk of exposing acid sulphate soils to air or the chance for oxidation.

- (i) The Project design achieves the water quality objectives stated for the Brisbane River Estuary environmental values and water quality objectives (Basin No. 143 mid-estuary) referred to in the Environmental Protection (Water) Policy 2009 for water, including groundwater, released from the tunnels and underground stations to surface waters.
- (j) The project design achieves no increase in pollutant loads for water, including groundwater, released from the surface works to surface waters.
- (k) The Project design is based on current flooding information to achieve flood immunity to the tunnel infrastructure and underground stations in a 1 in 10,000 year annual exceedance probability (AEP) regional flood event, and a 1 in 100 AEP overland flow event.
- (l) The Project design will not cause property damage from flood impacts to third parties for events up to and including the 1 in 100 AEP flood event.
- (m) Project Works in Mayne Rail Yard must be designed on the basis of detailed flood modelling.

6. Cultural Heritage

- (a) The Project design reflects and minimises the impact on the cultural and historical significance of places where surface works occur, and where reasonable and practicable, avoids or minimises the direct impact on heritage values of such places.
- (b) The Project design acknowledges a locality's historical significance or cultural significance to Aboriginal people through input to:
 - (i) place naming;
 - (ii) interpretative signage and other landmarks; and
 - (iii) the themes for public art.
- (c) In developing the Project design, the Proponent would provide opportunities for architectural design sympathetic to the cultural heritage landscape and streetscape.

7. Climate change and sustainability

- (a) Project ventilation systems are designed to minimise energy consumption while achieving acceptable passenger comfort and air quality outcomes in both the ambient environment and the Project stations and tunnel system.
- (b) The Project is designed to be adaptable to conditions that may arise as a result of climate change, including accommodating the predicted 1.0 m sea level rise scenario in 2100 (upper range).
- (c) Sustainability initiatives, particularly in relation to energy consumptions and savings throughout the Project lifecycle are incorporated in detailed design and tracked via a Sustainability Tool (e.g. ISCA's rating tool) through to Project implementation.
- (d) In design and construction, devise and implement a process for optimising energy efficiency in construction planning and delivery (e.g. component sourcing and transportation, spoil and materials handling – no double handling, programing to avoid re-work or redundant work).
- (e) In operations, energy efficient design that meets the performance criteria of all Project plant and equipment would be included in the design specification.

8. Land use and tenure

- (a) Minimise the 'footprint' of the Project during both construction and operations to reduce impacts on existing land uses through design refinement.

- (b) The Project design seeks to optimise land use and transport integration with:
 - (i) PA Hospital, Boggo Road Busway station, Park Road Railway station and Boggo Road Urban Village;
 - (ii) Woolloongabba Priority Development Area (PDA);
 - (iii) Albert Street;
 - (iv) Roma Street; and
 - (v) Bowen Hills PDA.
- (c) The Project is to be designed in consultation with:
 - (i) Rail Infrastructure Manager in relation to use of Railway land required for project worksites; and
 - (ii) Proponents for urban development projects at Boggo Road Urban Village, Woolloongabba PDA, Albert Street and Roma Street redevelopment and Royal National Agricultural and Industrial Association of Queensland (RNA) redevelopment.
- (d) The Project design minimises the loss of public open space in Victoria Park during construction.

9. Visual amenity and lighting

- (a) The Project design seeks to minimise the visual impact of the above-ground infrastructure with regards to its scale, height and bulk. Specific urban design and visual impact studies are required to inform detailed design for:
 - (i) the station ventilation outlets and intake structures;
 - (ii) the above-ground electricity feeder stations;
 - (iii) the portals and transition structures; and
 - (iv) noise barriers and other impact mitigation devices or structures.
- (b) Where required, noise barriers are designed to reduce the visual impacts to surrounding properties and roadways by:
 - (i) incorporating urban design treatments and landscape elements such as massed plantings;
 - (ii) using clear or transparent materials to maintain existing expansive views beyond the rail corridor, subject to security and maintenance considerations being evaluated; and
 - (iii) avoiding the use of highly reflective materials and materials that support graffiti.
- (c) Landscaping, urban design and public art treatments sympathetic to heritage landscape and streetscape values are incorporated into the design of Project Works at stations and thoroughfares accessing stations.

10. Social environment

- (a) The design of stations and public spaces developed as part of the Project stations incorporate CPTED principles to maximise commuter safety.

11. Waste

- (a) The Project is designed to minimise waste generation and maximise the reuse and recycling of waste materials generated by the Project during its construction and operation.

- (b) Opportunities are investigated during the detailed design phase for the use of recycled materials, including for Project infrastructure produced from concrete, road base, asphalt and other construction materials.
- (c) During detailed design, the feasibility of re-using material excavated from the Project is investigated.

Schedule 2. Nominated entities with jurisdiction for conditions

Table A1 lists the organisations/agencies responsible for each of the Coordinator-General's Imposed Conditions (Appendix 1).

Table A1. Entities with jurisdiction for Coordinator-General Imposed Conditions

Part	Approval	Condition no.	Entity with jurisdiction
A	General conditions	1	Coordinator-General
A	Outline Environmental Management Plan	2	Coordinator-General
B	Design	3	Chief Executive, TMR
C	Construction Environmental Management Plan	4	Chief Executive, TMR
C	Compliance	5	Chief Executive, TMR
C	Reporting	6	Chief Executive, TMR
C	Environmental Monitor	7	Coordinator-General
C	Community Relations Monitor	8	Coordinator-General
C	Community engagement plan	9	Chief Executive, TMR
C	Hours of work	10	Chief Executive, TMR
C	Construction Noise and Vibration	11	Chief Executive, TMR
C	Property Damage	12	Chief Executive, TMR
C	Air Quality	13	Chief Executive, TMR
C	Traffic and Transport	14	Chief Executive, TMR
C	Water quality	15	Chief Executive, TMR
C	Water resources	16	Chief Executive, TMR
C	Surface water	17	Chief Executive, TMR
C	Erosion and sediment control	18	Chief Executive, TMR
C	Acid sulphate soils	19	Chief Executive, TMR
C	Landscape and open space	20	Chief Executive, TMR
C	Worksite rehabilitation	21	Chief Executive, TMR
D	Environmental design requirements	22	Chief Executive, TMR
D	Commissioning	23	Chief Executive, TMR

Schedule 3. Definitions

Directly Affected Persons means an entity being either the owner or occupant of premises for which predictive modelling or monitoring indicates the project impacts would be above the performance criteria in the Imposed Conditions.

Construction Environmental Management Plan means the Construction Environmental Management Plan referred to in Condition 4.

Outline EMP means the Outline EMP approved by the Coordinator-General in Condition 2.

Managed Work means Project Work for which either the predicted or monitored impacts meet the performance criteria at a Sensitive Place.

Non-Compliance Event means Project Works that do not comply with the Imposed Conditions

Predictive Modelling means the use of appropriate analytical scenario testing, whether or not by numerical measurements, undertaken prior to the commencement of Project Works.

Project Work means any works, including early works, demolition works or site preparation works, for construction of the project. Project Work does not include:

- any works associated with the demolition of buildings and structures on State owned land;
- works involving the relocation or replacement of public utilities when undertaken by a public utility authority or provider;
- the placement and management of spoil at spoil placement locations
- works associated with the temporary Roma Street Coach Terminal.

Sensitive Place means:

- a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel)
- a library, childcare centre, kindergarten, school, university or other educational institution
- a medical centre, surgery or hospital
- a protected area
- a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment
- a work place used as an office or for business or commercial purposes, which is not part of the project activity(ies) and does not include employees accommodation or public roads.

Appendix 2. Coordinator-General's recommendations for the Cross River Rail project

This appendix includes the Coordinator-General's recommendations for the Cross River Rail project.

Recommendation 1. Ecosciences building planning

The proponent should continue to undertake consultation with the key stakeholders to minimise constraints on the planned development of the stage 2 of the Ecosciences Precinct.

Recommendation 2. Greenspace planning

The proponent should liaise with Brisbane City Council to offset the loss of public open space/pocket parks in accordance with Element 6 Nature Conservation of the OEMP.

Recommendation 3. Silicosis

The proponent should consider the findings from the Coal Workers' Pneumoconiosis Select Committee final report, *Black Lung White Lies – Inquiry into the re-identification of Coal Workers' Pneumoconiosis in Queensland*. Implement relevant recommendations regarding the potential impacts from silica to underground workers involved in tunnelling construction (silicosis) and include in:

- (a) The Hazard and Risk sub-plan and/or
- (b) The Air Quality sub-plan

Recommendation 4. Mined tunnelling

Mined tunnelling should be implemented in accordance with the *Work Health and Safety Act – Tunnelling Code of Practice 2011* and the *Excavation Work Code of Practice 2017*.

Recommendation 5. Myer Centre carpark

The proponent should undertake an assessment taking into consideration the potential impacts on surface pedestrian, traffic and public transport networks of the proposed changes to exit arrangements for the Myer Centre carpark in consultation with Brisbane City Council and Myer Centre management.

Recommendation 6. Freight

The proponent should engage and consult with key stakeholders such as the Western Freight Users Group and the Rail Infrastructure Manager regarding the possession of the rail corridor to reduce potential impacts on rail freight movements during construction in accordance with Element 2 of the OEMP.

Recommendation 7. Pavement impacts

In consultation with Brisbane City Council, the proponent should develop mitigation measures to address any assessed pavement damage on local roads from project spoil haulage.

Recommendation 8. Noise and Vibration

The proponent should consult with relevant advisory agencies in the development of mitigation measures for predicted and monitored noise and vibration impacts above the goals for the CEMP.

Recommendation 9. Dust impacts - Southern Portal / Boggo Road Railway station worksites

The proponent should conduct predictive air quality modelling for early construction earthworks prior to the commencement of Project Works. Should exceedance of the goals in Table 4 of the Imposed Conditions be predicted, I recommend that consultation be undertaken with relevant entities including representatives of the PA Hospital, Leukaemia Foundation ESA Village, Ecosciences Precinct and the TRI building in the development of mitigation measures.

The proponent should establish real-time monitoring, with monitoring stations positioned at appropriate locations around the proposed worksites. Should exceedances of the goals in Table 4 be monitored or occur during construction, that are attributable to the project, the proponent should revise their adaptive management approach where necessary.

Recommendation 10. Boggo Road Pedestrian Connection

It is recommended that the Proponent refine the "Boggo Road Pedestrian Bridge Concept" (as shown in the Response to Submission Report dated June 2019) in consultation with the Department of Transport and Main Roads, Brisbane City Council, Ecosciences and the Princess Alexandra Hospital to maintain consistency with the Environmental Design Requirements for Traffic and Transport.

Recommendation 11. Traffic Management

In developing the Construction Traffic Management Plans required by Imposed Condition 14, it is recommended that the Proponent:

- continue to participate in the Traffic Management Liaison Group, together with Brisbane City Council, Translink and DTMR;
- undertake detailed analysis and modelling of the proposed temporary closure and diversion of the Inner Northern Busway at Roma Street;
- provide the outcomes of that analysis to Brisbane City Council and Translink to inform future public transport timetable management to accommodate the temporary diversion;
- consider the concurrent construction of other projects in the central business district in determining the appropriate spoil haulage hours in the central business district through the Construction Traffic Management Plan;
- consider the appropriate spoil haulage and materials equipment delivery hours at worksites in the vicinity of schools, taking into consideration student drop-off and pick-up hours between 7-9am and 2-4pm on school days.

Recommendation 12. Parkland Boulevard

It is recommended that the Proponent investigate the feasibility of upgrading access between the Roma Street Parklands and Parkland Boulevard Apartments and the external road network, with particular emphasis given to considering whether amendments to the College Road/Wickham Terrace/Gregory Terrace/Parkland

Boulevard intersection could accommodate an alternative egress point for Roma Street Parklands residents.

Recommendation 13. Flood studies

It is recommended that detailed hydraulic modelling be conducted as part of the final detailed design for the bridge structures in Breakfast Creek and Moolabin Creek. Brisbane City Council should be consulted on hydraulic modelling which will inform construction methodology and bridge design. Hydraulic modelling should be provided to Brisbane City Council for review and comment.

Recommendation 14. Consultation with key stakeholders

It is recommended that the Proponent should continue to undertake consultation with directly affected persons and key stakeholders for the duration of construction, to minimise and manage Project impacts.

Recommendation 15. Noise mitigation at Dutton Park

Consistent with achieving the Environmental Design Requirements for Noise and Vibration, it is recommended that where predictive modelling indicates exceedances of the noise criteria for railway surface track airborne noise emissions, the Proponent consult with Queensland Rail and residents of Cope Street during detailed design and consider noise mitigation measures that balance achieving compliance with MD-15-317, operational rail requirements and amenity impacts for residents of Cope Street.

Recommendation 16. Noise mitigation at Albert Street and Roma Street

To assist with meeting the project's construction noise criteria for night time cavern excavation and construction works, it is recommended that the Proponent consider (as part of the detailed construction planning) the use of a high performance enclosure for noise attenuation generally in the location of the "purpose built acoustic enclosure" shown on Drawing CRR-0003-CD-GA-150 and Drawing CRR-0003-CD-GA-155.

Recommendation 17. Managing impacts on homeless persons and associated community service providers

It is recommended that the Proponent continue to work in cooperation with key stakeholders, including the Queensland Council of Social Service, Department of Housing and Public Works, Department of Communities, Queensland Health, Brisbane City Council and government funded Micah Projects to provide appropriate assistance to homeless persons who may be adversely affected by the Project Works. In particular, the proponent should use targeted communication at each construction site and engage relevant stakeholders early to ensure appropriate notice is provided to homeless people and service providers prior to construction commencing.

Acronyms and Abbreviations

Acronym	Definition
ARI	Annual Recurrence Interval
BCC	Brisbane City Council
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CGCR	Coordinator-General's change report
CGER	Coordinator-General's evaluation report
CRRDA	Cross River Rail Delivery Authority
CEP	Community Engagement Plan
CTMP	Construction Traffic Management Plan
DAP	Directly Affected Person
DES	Department of Environment and Science
DNRME	Department of Natural Resources, Mines and Energy
DTMR	Department of Transport and Main Roads
dB(A)	A-weighted decibels
EIS	environmental impact statement
EMF	environmental management framework
HMP	Haulage Management Plan
M	Metres
NVMP	Noise and Vibration Management Plan
OEMP	Outline Environmental Management Plan
QR	Queensland Rail
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>

Glossary

Term	Definition
coordinated project	A project declared as a 'coordinated project' under section 26 of the SDPWO Act. Formerly referred to as 'significant project'.
Coordinator-General	The corporation sole constituted under section 8A of the SDPWO Act and preserved continued and constituted under section 8 of the SDPWOA Act.
imposed condition	A condition imposed by the Queensland Coordinator-General under section 54B of the SDPWO Act. The Coordinator-General may nominate an entity that is to have jurisdiction for that condition
June 2019 CGCR	The Coordinator-General's change report dated 26 June 2019
significant project	A project declared (prior to December 2012) as a 'significant project' under section 26 of the SDPWO Act. Projects declared after 21 December 2012 are referred to as 'coordinated projects'.
the project	The project described in the Coordinator-General's Evaluation Report dated 20 December 2012.

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