Cross River Rail Project

Monthly Environmental Report

August 2023

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Executive Summary

This Monthly Environmental Report (MER) has been produced for Project Works undertaken on site for August 2023 for the Rail, Integration and Systems (RIS), and Tunnel, Stations and Development (TSD) packages. The report addresses the obligations outlined in the Coordinator-General's change report – *Coordinator-General's change report – no. 13 (March 2022)*. Plus, the individual contractor's Construction Environmental Management Plans (CEMPs), which have been developed generally in accordance with the Project's Outline Environmental Management Plan (OEMP). The Cross River Rail Delivery Authority (Delivery Authority), as the Proponent of the Cross River Rail Project, is required to submit a monthly report to the Coordinator-General to demonstrate compliance with the imposed conditions.

Section 1 of this report provides a background to the project and the Coordinator-General's conditions. Section 2 provides a review of the contractor's reports contained in **Appendix A** (RIS Monthly Report) and **Appendix B** (TSD Monthly Report).

The Environmental Monitor (EM) has reviewed and endorsed this MER. This endorsement follows ongoing and new document reviews, and surveillance across the relevant project worksites.

The CEMPs prepared by both Unity Alliance (RIS Contractor) and CBGU JV on behalf of Pulse (TSD Contractor) for their Relevant Project Works were endorsed by the EM and submitted to the Coordinator-General in accordance with Condition 4(a) and 4(b) respectively.

The table below presents a summary of compliance status against each condition with a short comment for each:

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
1.	**General conditions** – compliance with the Project Changes relevant to the contractor's scope	Yes	The CEMP and site management plans are in accordance with the Project Changes.
2.	**Outline Environmental Management Plan** – timely submission to the Coordinator-General including required sub-plans	Yes	OEMP dated June 2020 is effective for the reporting period.
3.	**Design** – achievement of the Environmental Design Requirements	NA	Ongoing progress with design packages.
4.	**Construction Environmental Management Plan** – all relating to Relevant Project Works.	Yes	RIS – CEMP Revision 13 covering full scope of RIS works is effective from 14 March 2022. TSD – CEMP Revision 11 covering full scope of TSD works is effective from 24 November 2022.
5.	**Compliance and Incident management** – Non-compliance events, notifications and reporting.	Yes	No Non-Compliance Event (NCE) were reported in August 2023.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
6.	**Reporting** – Monthly and Annual reporting.	Yes	This MER, including RIS and TSD Monthly Reports, has been submitted in accordance with the conditioned requirements. Refer to **Appendix A** and **Appendix B**.
7.	**Environmental Monitor (EM)** – engaged and functions resumed.	Yes	Ongoing weekly site inspections and document reviews continue to take place.
8.	**Community Relations Monitor (CRM)** – engaged and functions resumed	Yes	Ongoing.
9.	**Community Engagement Plan** – developed and endorsed by Environmental Monitor.	Yes	CEMPs endorsed with Community Engagement Plan.
10.	**Hours of work** – Project Works undertaken during approved hours.	Yes	Project Works have been undertaken in accordance with project requirements. This has been achieved through Standard Working Hours, Extended work hours and Managed Work.
11.	**Noise** – Project Works must aim to achieve internal noise goals for human health and well-being.	Yes	Noise monitoring met project noise requirements at Sensitive Places. RIS – Noise monitoring was undertaken to validate predicted noise modelling. Refer to **Appendix A** (Table 4 and Section 3.1.6). TSD – Noise monitoring was undertaken to validate predicted noise modelling and monitoring at sensitive places. Noise monitoring confirmed project requirements were met. Refer to **Appendix B** (Table 3 and Section 3.2).
	Vibration – Project Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	Yes	Vibration monitoring met project vibration requirements at Sensitive Places. RIS – Vibration monitoring was undertaken to validate predicted vibration modelling. The results met the requirements of the endorsed CEMP. Refer to **Appendix A** (Table 5 and section 3.1.7) TSD – Vibration monitoring was undertaken to validate predicted vibration modelling. The results met the requirements of the endorsed CEMP. Refer to **Appendix B** (Table 2 and Section 3.1).

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
12.	**Property damage** – relating to ground movement.	Yes	RIS – Vibration modelling has been undertaken for Relevant Project Works, and Property Damage Sub-plans have been developed and implemented. Pre-condition surveys have been completed at heritage, commercial and residential buildings at RNA, Northern Corridor and Dutton Park to Salisbury stations. TSD – Vibration modelling has been prepared and is ongoing. Where required, building condition survey reports are completed for heritage and residential buildings. No enquiries relating to property damage were received during August 2023.
13.	**Air quality** – Works must aim to achieve air quality goals for human health and nuisance.	Yes	Air quality monitoring met Project air quality requirements. RIS – Contractor confirmed they continued to meet the requirements under Condition 13 and the OEMP. Refer to **Appendix A** (Tables 7, 8 and 9 and Section 3.1.11, plus Figures 1, 2, 3, 4 and 5). TSD – Contractor confirmed they continued to meet the requirements under Condition 13 and the OEMP. Refer to **Appendix B** (Tables 4.2.2, 5 plus Section 3.3).
14.	**Traffic and transport** – Works must minimise adverse impacts on road safety and traffic flow.	Yes	Traffic Management Plans are covered in the CEMPs. Sub-plans for all active worksites have been reviewed by the EM.
15.	**Water quality** – Works must not discharge groundwater from the construction site above the relevant environmental values and water quality objectives. Monitor and report on water quality in accordance with CEMP and Sub-plans.	Yes	Monitoring and reporting on groundwater and surface water quality was undertaken in accordance with RIS and TSD Water Quality Management Plans. RIS – No groundwater discharges occurred during August 2023. Post rainfall monitoring was not triggered as per Condition 15(b) and Condition 18. Surface water discharge occurred at RNA, Mayne Yard North and Yeronga and the monitoring results demonstrated active surface water discharge criteria was met. TSD – Active discharge of groundwater occurred from Roma Street, Albert Street, Woolloongabba and Boggo Road

			worksites. Monitoring results of groundwater quality prior to discharge is consistent with the pre-construction water quality levels. Refer to **Appendix B** (Table 6) for groundwater monitoring results. Surface water discharges occurred at the Northern Portal. The monitoring results demonstrated surface water discharges met project water quality discharge criteria. Refer to **Appendix B** (Table 7) for surface water monitoring results. Routine surface water monitoring occurred across TSD project sites. Refer to Appendix B (Section 3.5 and Table 8) for further details.
16.	**Water resources** – Evaluate potential impact, plan works, implement controls and monitor inflow of groundwater associated with drawdown.	Yes	RIS – There is no sustained groundwater extraction involved in the RIS scope of works so predictive modelling of groundwater drawdown is not required. Collection of hydrological data to model potential inflow rates into excavations during construction has been undertaken. TSD – Inflow of groundwater into the worksites is being continuously monitored to validate the predictive modelling.
17.	**Surface water** – Must be designed 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 and constructed to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.	Yes	Contractors continue to consider this condition in their site planning and design.
18.	**Erosion and sediment control** – Provisions for erosion and sediment control must be 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.	Yes	Site specific ESC plans for all active work sites have been reviewed by the EM and implemented on site.
19.	**Acid sulfate soils** – managed as per the Queensland Acid Sulfate Soil Technical Manual.	Yes	Acid Sulfate Soil Management Plans have been prepared and implemented for all active worksites.

20.	**Landscape and open space** – general requirement to minimise impacts on landscapes and open space values and specific requirements around Victoria Park.	Yes	The construction of a temporary access road through Victoria Park was undertaken under a Heritage Exemption Certificate approved by the Department of Environment and Science (DES) on 24 July 2021. Consideration has been taken to minimise loss of trees and the area of park impacted during these temporary works.
21.	**Worksite rehabilitation** – worksites rehabilitated as soon as practicable upon completion of works or commissioning, and in consultation with Brisbane City Council.	N/A	N/A

Non-Compliance Events

There were no NCEs raised in August 2023.

Definitions

Acronym	Definition
ARI	Average Recurrence Interval - The average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration.
CEMP	Construction Environmental Management Plan
CGCR	Coordinator-General's Change Report
CRM	The Community Relations Monitor engaged in accordance with Imposed Condition 8
Contractor	The contractors appointed to design, construct, and commission the Project
Coordinator-General	The corporation sole preserved, continued, and constituted under section 8 of the SDPWO Act.
CRR	Cross River Rail
DES	Department of Environment and Science
EIS	Environmental Impact Statement
EM	The Environmental Monitor engaged in accordance with Imposed Condition 7
ESC	Erosion and sediment control
IECA	International Erosion Control Association
Imposed condition/s	A condition/s imposed by the Coordinator-General under section 54B of the SDPWO Act for the Project
MER	Monthly Environment Report
MRTS52	Transport and Main Roads Specifications MRTS52 Erosion and Sediment Control
NCE	Non-Compliance Event
OEMP	Outline Environmental Management Plan
Project	The Cross River Rail Project
Project Works	As defined in the Imposed Conditions
Proponent	The Cross River Rail Delivery Authority
RfPC	Request for Project Change
RIS	Rail, Integration and Systems
SDPWO Act	*State Development and Public Works Organisation Act 1971*
Sub-plan	Any sub-plan of the CEMP
The Delivery Authority	The Cross River Rail Delivery Authority
TSD	Tunnel, Stations and Development

1. Introduction

1.1. Background

The Cross River Rail Project (the Project) is a declared coordinated project under the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The CRR Environmental Impact Statement (EIS) was evaluated by the Coordinator-General who recommended the Project proceed, subject to Imposed Conditions and recommendations. Since the evaluation of the EIS, several Requests for Project Change (RfPC) submissions have been evaluated by the Coordinator-General. RfPC 13 was endorsed in March 2022 by the Coordinator-General.

The Coordinator-General has imposed conditions on the Project that apply throughout the design, construction, and commissioning phases. These are referred to as the Imposed Conditions. In addition, the Coordinator-General has approved the Project's OEMP which outlines the environmental management framework for the Project. The OEMP includes environmental outcomes and performance criteria which must be achieved for the Project.

Imposed Conditions 5 and 6 nominate the compliance and reporting requirements for the Project. This monthly report addresses these requirements.

1.2. Project Delivery

The Delivery Authority is responsible for planning and delivering the Project. The Project established environmental management plans and secured some of the secondary environmental approvals in addition to enabling works.

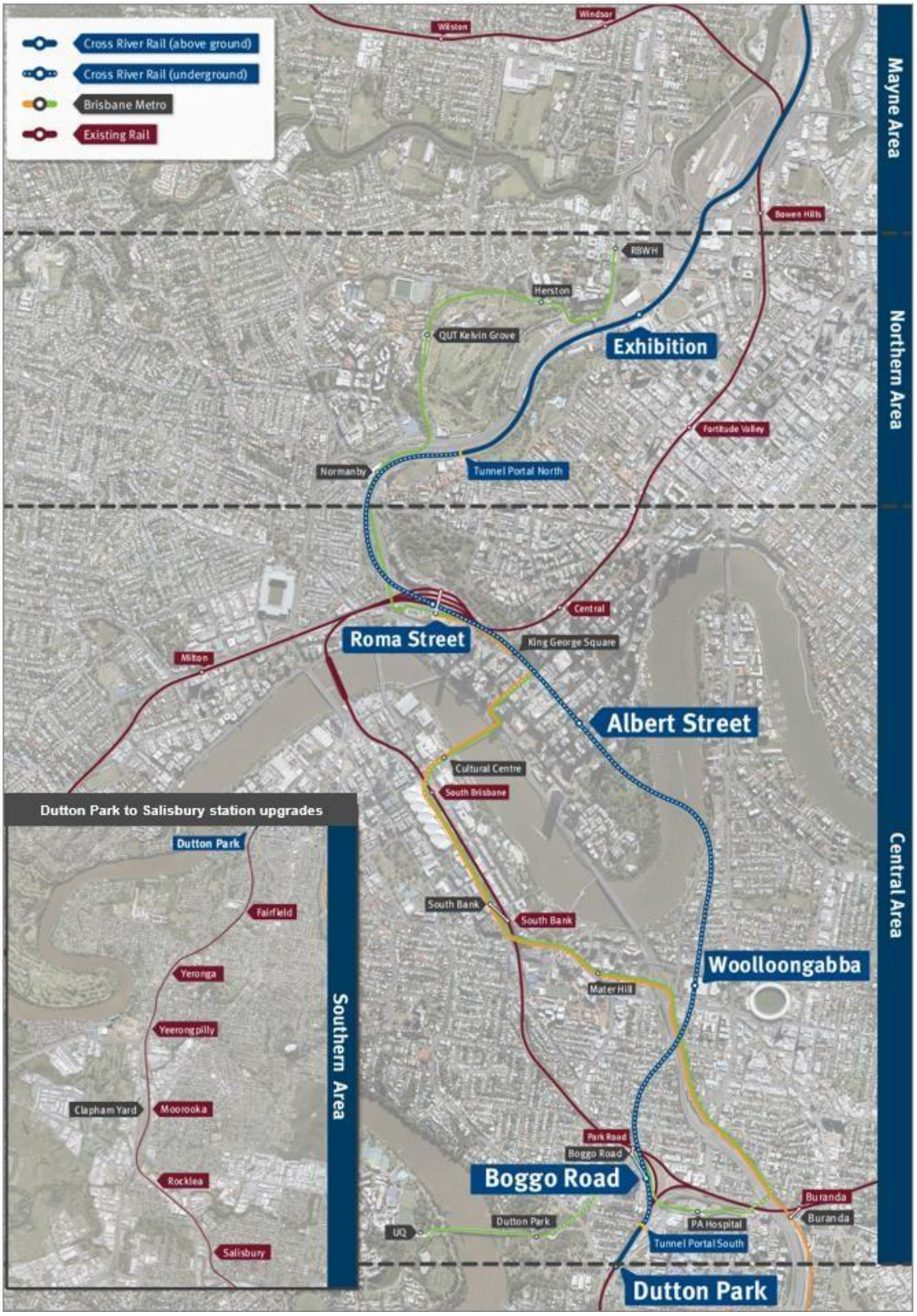
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

- Tunnel, Stations and Development (TSD) being delivered by CBGU JV; and
- Rail, Integration and Systems (RIS) being delivered by Unity Alliance.

The Project is geographically divided into four areas:

- Mayne Area
- Northern Area
- Central Area; and
- Southern Area.

These areas and delivery packages are shown in the figure below.


Cross River Rail (above ground)
Cross River Rail (underground)
Brisbane Metro
Existing Rail
Mayne Area
Northern Area
Central Area
Southern Area
Wilston
Windsor
Bowen Hills
RBWH
Herston
QUT Kelvin Grove
Exhibition
Fortitude Valley
Normanby
Tunnel Portal North
Central
Roma Street
King George Square
Milton
Albert Street
Cultural Centre
South Brisbane
South Bank
South Bank
Woolloongabba
Mater Hill
Park Road
Boggo Road
Boggo Road
Buranda
Buranda
Dutton Park
PA Hospital
UQ
Tunnel Portal South
Dutton Park
Dutton Park to Salisbury station upgrades
Dutton Park
Fairfield
Yeronga
Yeerongpilly
Clapham Yard
Moorooka
Rocklea
Salisbury

1.3. Reporting Framework

This MER has been prepared to comply with Imposed Conditions 6 and 7 of the Coordinator-General Change Report (CGCR) and includes:

- monitoring data and associated interpretation of the results required by the imposed conditions and Construction Environmental Management Plan (CEMP);
- details of any NCEs, including incidents, corrective actions, and preventative actions; and
- details of any complaints, including description, responses, and corrective actions.

Reporting on environmental elements captured in each monthly environmental report, including the annual environmental report, is reviewed and endorsed by the EM.

1.4. Monthly Environment Report Endorsement

This MER has been endorsed by the EM and the endorsement provided to the Coordinator-General.

2. Compliance Review

This MER has been reviewed and endorsed by the EM as per Imposed Condition 7 of the CGCR.

2.1. Relevant Project Works

The following Project Works were undertaken in August 2023:

Area	Project Works
Mayne Area	**Mayne Yard North –** • Handover of Vehicle Access Road to QR 17 Jul '23 (north of Ferny Grove Flyover). **Mayne Yard East / West –** • Completion of Bridge 12; • Shunter Shed East FRP and Structural Steel; • Axillary Buildings commence FRP; • RIS-N-7A.1 completion; • CER foundation / CSR to Coms Team; and • CSR commenced in Mayne Yard East.
Northern Area	**RNA/ Northern Corridor –** • Completion of BR12; • Shunter Shed East FRP and Structural Steel; • Axillary Buildings commence FRP; • RIS-N-7A.1 completion; • CER foundation / CSR to Coms Team; • CSR commenced in Mayne Yard East; • RMAR pavements around Northern Portal; and • Drainage at Northern Portal. **Northern Portal –** • Physical works complete.
Central Area	**Roma Street** – • Main Station Building Entry Main Station roof slab complete, service installation progressing B4 through L1 and RA3; and pavilion slab progressing; • QR Platform 2 Delivery Authority contractor progressing; • M&E building roof slab complete, Services installation and fit-out progressing, HV transformers installed and connection works progressing; and • Cavern Precast Platform slabs and in-situ slab concrete 80% complete, back of

House East and West services installation continues.

Albert Street –

- Lot 1 – slip cycles to ground level work ongoing, commenced works for internal jump form lift and continued blockwork on B10 level;
- Lot 2 – platform culverts ongoing; mezzanine works nearing completion, AS1 shaft internal wall FRP; and
- Lot 3 – L0 suspended slab ongoing and tower crane base removal.

Woolloongabba –

- External wall pours continue to progress for Station walls SW5 and SW3;
- Blockwork complete in service building and main station levels. Blockwork to South Cavern Back of House;
- ongoing and about to commence in the North Back of House;
- ME/Building Services commenced on B9, B8, B7, B6, B4 & B3, including both stairwells;
- ME/Building Services commenced in South Cavern Back of House and platform culverts;
- Goods Lift install 70% complete; and

  Platform culvert topping slab poured in South Cavern, culvert installation continues in the North Cavern.

Tunnel fit-out –

- A2R MC01 Rising Main Pipe install ongoing;
- MC02 Hydrant Pipe install ongoing;
- G2A Rising main install ongoing in MC01;
- Walkway install ongoing in both MC01 & MC02. Fire rated Brackets install ongoing in MC02;
- R2NP cable containment in MC01 and continuing in MC02; and
- Leaky Feeder cable pulling continued in MC02.

Boggo Road –

- Concrete to insitu structure 83% complete;
- Reinforcement to insitu structure 81% complete;
- Mezzanine precast trusses - 230 of 230 delivered to site, 228 installed;
- Precast platform culverts and planks – 457 of 461 installed;
- Super T's – 37 of 39 installed;
- Goods Lift 2 install 90% complete;
- M&E fitout continuing in northern Back of House;
- M&E fitout continuing in southern Back of House; and
- Services install to under platform corridor commenced.

Southern Portal –

- Completed Energex FRP retention walls in internal roof void;
- Continue FRP works to Eastern and Western Approach substructures;
- Complete site delivery of all Eastern Approach Girders;
- Continued Eastern Approach Bridge Girder installation;
- Commence Western Approach Bridge Girder delivery and installation;
- MC02 completed Energex retention walls, in internal roof void;
- Commenced FFO footing void penetration FRP works, in internal roof void;
- PAH Bridge Substructure
- Completed Western Approach Lift shaft wall, Wall 4;
- Commenced Western Approach abutment headstock;
- Completed Eastern Approach Abutment Southern wall;
- Completed 4 Eastern Approach Headstocks EP2, EP3, EP4 & EP5. 11 of 14 completed;
- PAH Bridge Superstructure;
- Delivery to Kent St laydown of final 3 Eastern Approach Girders EG14, EG7 and EG1. All 18 Eastern Approach Girders now onsite at Kent St;

	• Install of Eastern Approach Girders EG14, EG13, EG12 & EG11. 8 of 18 Installed; • Install of Western Approach temporary towers WTP1 & WTP2; and • Delivery and Install of Western Approach Girders WG1 & WG2. 2 of 3 delivered and installed.
Southern Area	**Southern / Dutton Park** – • Continued works for Platform 1 retaining walls on Cope St & station entry; • Platform 1 – continued preparatory works for platform slabs; • Platform 2 – continued installation of platform walls; and • Noise walls progress. **Fairfield station** – • Continued terminations, testing and fit out onsite; • Equity St PWD and QR carpark works; • Continued hardscaping of Mildmay and Equity St; and • Continuation of station building fit out works. **Yeronga station –** • Completion and certification of the station remains ongoing. **Clapham Yard –** • Aurizon fence (on top of RW650); • Driveways and stone pitching along Fairfield Road; • Civil Works – CSR works ongoing; • Track Works – Tamping of DG, DGL, HR1 & HR2 continued; • OHW Works – Structure installations; • Signalling works; and • Electrical / Comms – Procurement & planning ongoing. **Rocklea station –** • Ongoing construction of retaining walls, foundations and slabs at station entrance; • Continued platform slab pours; • Continued structural steel installation; and • Continuation of overpass fit out works.

2.2. Key Environmental Elements

2.2.1. Noise

The Coordinator-General's conditions establish a framework for managing the impacts of noise. The Imposed Conditions do not establish noise limits. Compliance with the Imposed Conditions noise requirements involves demonstrating the implementation of the endorsed CEMP and associated Noise and Vibration Management Plan. This establishes the management measures to be applied which aims to achieve the identified noise goals as far as reasonably practicable. The CEMP also includes requirements for the provision of the required community notifications of upcoming work, potential impacts, and how the project team can be contacted in relation to any potential impacts.

For Project Works where potential noise impacts are modelled to be above the noise goal but below the noise goal plus 20dBA, this work is authorised where the endorsed CEMP and associated Noise and Vibration Management Plan is being implemented, including communicating construction activities to potential and actual Directly Affected Persons (DAPs). For Project Works where potential noise impacts are predicted to be more than 20dBA above the relevant noise goal, specific engagement is required with DAPs for these works.

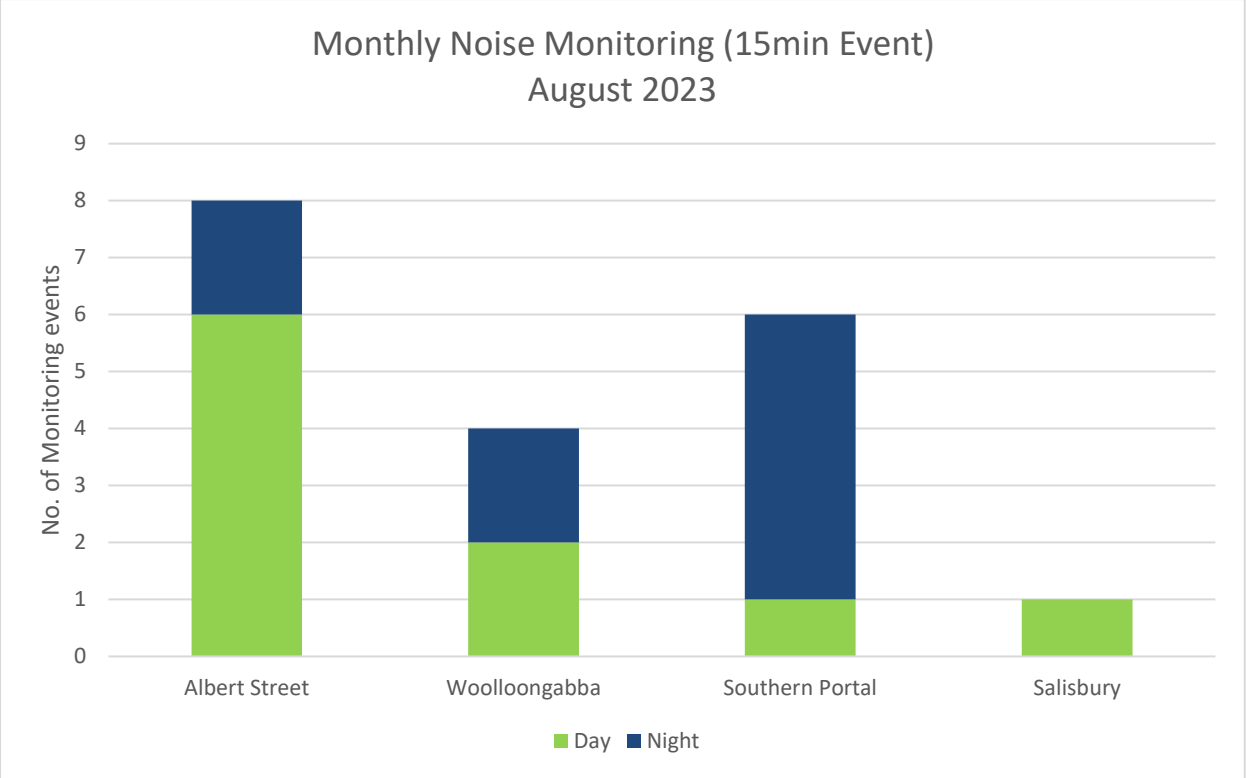
Where internal monitoring was not possible, contractors have undertaken external monitoring at nominated locations. To assess external monitoring and determine compliance with the project's noise requirements, the project applies recommended façade attenuation corrections, which considers

receiver property type.

In the Central Area, noise monitoring was undertaken for model verification and construction monitoring at sensitive places at Albert Street, Woolloongabba and Southern Portal. The TSD contractors reported that the project noise requirements have been met during this reporting month. Monitoring results for the Central Area are detailed in **Appendix B** (Table 3).

In the Southern Area, noise monitoring was undertaken for model verification at Salisbury Station during tree clearing works requiring a woodchipper. The RIS contractor reported that project noise requirements have been met including advance notification and consultation with DAPs. Monitoring results for the Southern Area are detailed in **Appendix A** (Table 4).

A summary of noise monitoring events for the month is provided in the chart below.



2.2.2. Vibration

In the Northern Area, vibration monitoring occurred at the State heritage listed John MacDonald Stand located in proximity to the Exhibition Station worksite. The RIS contractor reported the vibration requirements have been met, monitoring results are detailed in **Appendix A** (Table 5).

In the Central Area, vibration monitoring occurred at Woolloongabba due to utilities works beneath Stanley Street. Vibration monitoring adhered to the project requirements and is detailed in **Appendix B** (Table 2).

2.2.3. Air Quality

2.2.3.1. Dust Deposition

Dust deposition monitoring was conducted at Mayne, Northern, Central and Southern Areas. Results met the project air quality goal[1] for all active worksites.

A summary of the dust deposition results for the month are in the table below.

Air Quality – Dust Deposition Monitoring			
Area	**Worksite**	**Monitoring Location**	**Comments**
Mayne Area	Mayne Yard	Mayne Yard East	- Results met air quality goal
Northern Area	RNA / Exhibition	RNA Showgrounds	- Results met air quality goal
	Northern Portal	Northern Portal (near Brisbane Girls Grammar School)	- Results met air quality goal
Central Area	Albert Street	Mary Street	- Results met air quality goal
		Elizabeth Street	- Results met air quality goal
	Boggo Road	Quarry Street (north of the site)	- Results met air quality goal
		Peter Doherty Street/Leukemia Foundation	- Results met air quality goal
	Southern Portal	Dutton Park Station	- Results met air quality goal
		PA Hospital - Central Energy Unit along Kent Street	- Results met air quality goal
	Roma Street	Roma Street Station	- Results met air quality goal
	Woolloongabba	Russian Orthodox Cathedral	- Results met air quality goal
		Woolloongabba Busway	- Results met air quality goal
Southern Area	Dutton Park	Dutton Park	- Results met air quality goal
	Clapham Yard	Clapham Yard	- Results met air quality goal

[1] CG air quality goal for dust deposition - 120µg/m^2 (over an averaging period of 30 days).

2.2.3.2. Particulate Matter and Total Suspended Particulates

Monitoring for particulate matter (PM10) and total suspended particulates (TSP) was conducted at Northern, Central and Southern Area worksites. Results met the project goals at all active worksites.

In the Mayne Area, the Dust Monitor Pro (DMP) located at Mayne Yard East had been removed from site for its annual calibration by the supplier. During this process part of the equipment was found to be faulty and required replacement. This delayed the return of the unit to site. The unit has since been returned to site and began operating after the reporting period in a new location advised by UNITY's CAQP. The original location was no longer viable due to new site constraints.

In the absence of monitoring data, UNITY undertook an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP. This consisted of investigating the scope of works, meteorological conditions, site observations and complaints received. The investigation confirmed that UNITY's scope of works and implementation of their Air Quality Management Plan has met the project outcomes. Refer to **Appendix A** (Figure 4 and section 3.1.11.2).

In the Central Area, the TSD contractor confirmed that the Boggo Road air quality monitoring unit experienced technical difficulties and was required to be sent to the manufacturer for repair. This resulted in no PM_{10} or TSP data recorded for the entire reporting period. The nearby (Woolloongabba)

DES air quality monitoring station confirmed air quality levels were below the air quality goals during these outage periods. The Northern Portal air quality monitoring unit also experienced a technical fault and was down between 18 and 21 August 2023. As soon as practicable, the unit was inspected and the issue was resolved.

In the Southern Area, Clapham Yards' DMP failed to record a sufficient volume of data to be considered valid between 7 and 9 August 2023 due to repeated battery failure issues that have been experienced previously. The unit was replaced on 10 August 2023, however, the vendors inability to extract data from the unit resulted in only PM_{10} data from 24 to 31 August 2023 captured and reported. UNITY has confirmed that during this transition period, the vendor was setting up an online portal for direct access to the data which was completed after this reporting period ended.

In the absence of monitoring data at Clapham Yard, UNITY undertook an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP. This consisted of investigating the scope of works, meteorological conditions, site observations and complaints received. The investigation confirmed that UNITY's scope of works and implementation of their Air Quality Management Plan has met the project outcomes. Refer to **Appendix A** (Figure 5 and section 3.1.11.3).

A summary of particulate monitoring is provided in the table below.

Air Quality – PM_{10} / TSP Monitoring			
Area	**Worksite**	**Monitoring Location**	**Comments**
Mayne Area	Mayne Yard	Mayne Yard North	- Monitoring not required as per Project's CAQP advice.
	Mayne Yard	Mayne Yard East	- DMP removed from site for annual calibration, component required replacement. - Investigation into supplementary information confirmed the Project outcomes had been met
Northern Area	RNA / Exhibition	RNA showgrounds	- Results met air quality goals.
	Northern Portal	Brisbane Girls Grammar School	- Results met air quality goals. - Technical difficulties encountered between 18 and 21 August 2023
Central Area	Albert Street	iStay River City and Capri (Corner of Mary Street and Albert Street)	- Results met air quality goals.
	Boggo Road / Southern Portal	North-east of Boggo Road worksite	- Technical difficulties encountered and monitor sent off for repair. No TSP or PM10 data capture during the month. - Investigation into supplementary information confirmed the Project outcomes had been met
	Woolloongabba	Place Park, Woolloongabba	- Results met air quality goals.
Southern Area	Clapham Yard	Clapham Yard	- Results met air quality goals. - No monitoring results reported between 7 and 23 August 2023. - New monitor installed, with initial data extraction limitations

			experienced. - Investigation into supplementary information confirmed the Project outcomes had been met

2.2.4. Water Quality

Water quality monitoring and reporting was undertaken in accordance with the contractors CEMP and Water Quality Management Plans.

2.2.4.1. Surface Water

During August 2023, active surface water discharges occurred in the Northern Area, Central Area and Southern Area. Post-rainfall water quality monitoring was not triggered.

In the Mayne Area, active surface water discharge monitoring occurred on three (3) occasions at Mayne Yard. The monitoring results demonstrated active surface water discharges met project water quality discharge criteria. Refer to **Appendix A** (Table 10) and **Appendix B** (Table 7) for further details.

In the Northern Area, active surface water discharge monitoring occurred on one (1) occasion at RNA and on eighteen (18) occasions at Northern Portal. The monitoring results demonstrated active surface water discharges met project water quality discharge criteria. Refer to **Appendix A** (Table 11) and **Appendix B** (Table 7) for further details.

In the Southern Area, active surface water discharge monitoring occurred on one (1) occasion at Yeronga. The monitoring results demonstrated active surface water discharges met project water quality discharge criteria. Refer to **Appendix B** (Table 10) for further details.

Routine surface water monitoring was undertaken across the TSD worksites during the reporting period. Results from the locations reflect the condition of the broader catchment upstream from the worksites. Refer to **Appendix B** (Table 8 and Section 3.5) for further details.

Surface water quality monitoring is summarised in the table below:

Surface Water Quality Monitoring					
Area	**Worksite**	**Discharge**	**Post-Rain Monitoring**	**Routine Monitoring**	**Comments**
Mayne Area	Mayne Yard North	Yes	No	No	- Active surface water discharge met water quality investigation criteria. - ESC was implemented in accordance with site specific ESC Plan.
Northern Area	Exhibition/ RNA	Yes	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Northern Portal	Yes	No	Yes	- Active surface water discharge met water quality investigation criteria. - Routine in-stream monitoring undertaken in accordance with WQMP
	Northern Corridor	No	No	N/A	- ESC was implemented in accordance with site specific ESC Plan.

Central Area	Albert Street	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP
	Boggo Road	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP.
	Roma Street	No	No	Yes	- Routine in-stream routine monitoring undertaken in accordance with WQMP.
	Woolloongabba	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP.
	Southern Portal	Yes	No	Yes	- Active surface water discharge met water quality investigation criteria. - Routine in-stream monitoring undertaken in accordance with WQMP.
Southern Area	Dutton Park	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Fairfield station	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Yeronga	Yes	No	No	- Active surface water discharge met water quality investigation criteria. - ESC was implemented in accordance with site specific ESC Plan.
	Clapham Yard	No	No	No	- ESC was implemented in accordance with site specific ESC Plan. - Post rainfall monitoring undertaken
	Rocklea station	No	No	No	- ESC was implemented in accordance with site specific ESC Plan. - Post rainfall monitoring undertaken

2.2.4.2. Groundwater

Groundwater discharge occurred at Albert Street, Boggo Road, Roma Street and Woolloongabba worksites. The groundwater discharge results exceeded relevant water quality objectives (WQO's)[2] for several water quality parameters. However, these results are consistent with the receiving environment baseline monitoring pre-construction data. The contractor confirmed no changes have occurred onsite to the construction methodologies that would have affected the groundwater results. Refer to **Appendix B** (Table 6) for further details.

There were no groundwater discharges at Mayne, Northern or Southern Area worksites.

Groundwater quality monitoring is summarised in the table below:

Groundwater Quality Monitoring			
Area	**Worksite**	**Discharge**	**Comments**
Mayne Area	Mayne Yard North	No	- No groundwater discharges.
Northern Area	RNA/Exhibition	No	- No groundwater discharges.
	Northern Portal	No	- No groundwater discharges.
Central Area	Albert Street	Yes	- Discharge of groundwater met Project requirements
	Boggo Road / Southern Portal	Yes	- Discharge of groundwater met Project requirements
	Roma Street	Yes	- Discharge of groundwater met Project requirements
	Woolloongabba	Yes	- Discharge of groundwater met Project requirements
Southern Area	Clapham Yard	No	- No groundwater discharges.

[2] The Brisbane River Estuary environmental values and water quality objectives (Basin no 143 – mid-estuary) in the Environmental Protection (Water) Policy 2009

2.2.5. Erosion and Sediment Control

Site specific Erosion and Sediment Control (ESC) Plans have been prepared, updated, and implemented at Mayne Yard, RNA Showgrounds, Northern Portal, Normanby, Roma Street, Albert Street, Woolloongabba, Boggo Road, Southern Portal, Dutton Park, Fairfield, Yeronga, Yeerongpilly, Clapham Yard and Rocklea worksites.

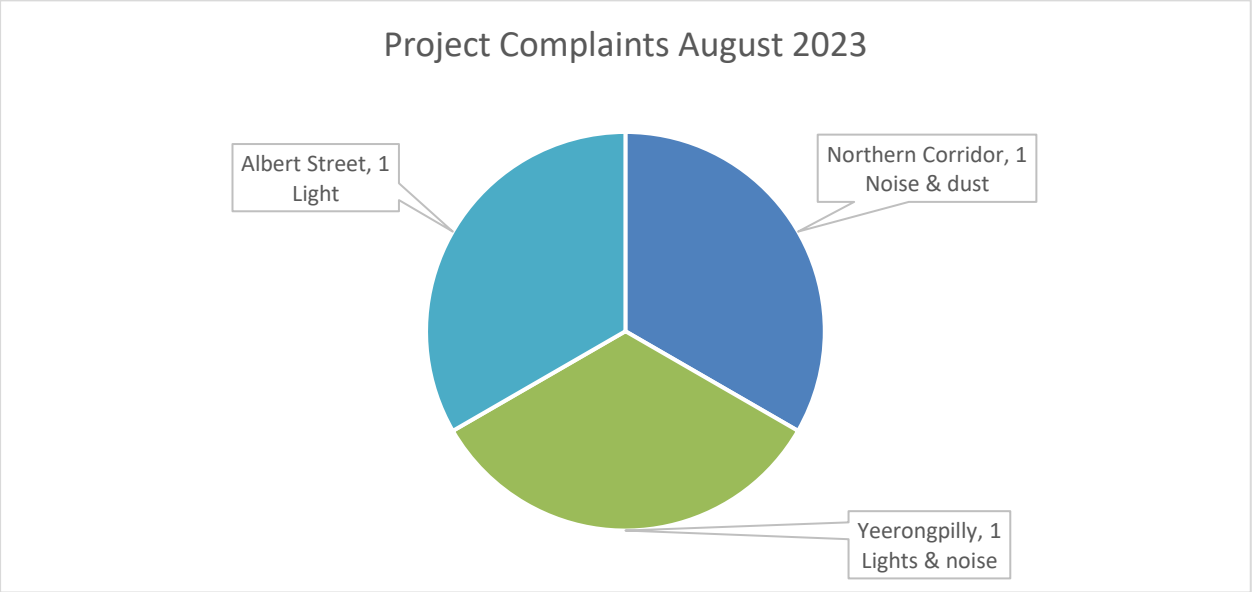
2.3. Complaints Management

A total of four complaints were received during the month, three of which were project related.

RIS works received two complaints during August 2023 relating to lights and construction noise during out of hours works at Yeerongpilly and construction noise and dust at Northern Corridor. For further details and breakdown of complaints, refer to **Appendix A** (Table 3).

TSD works received one complaint related to light at Albert Street. For further details and a breakdown of complaints, refer to **Appendix B** (Table 10).

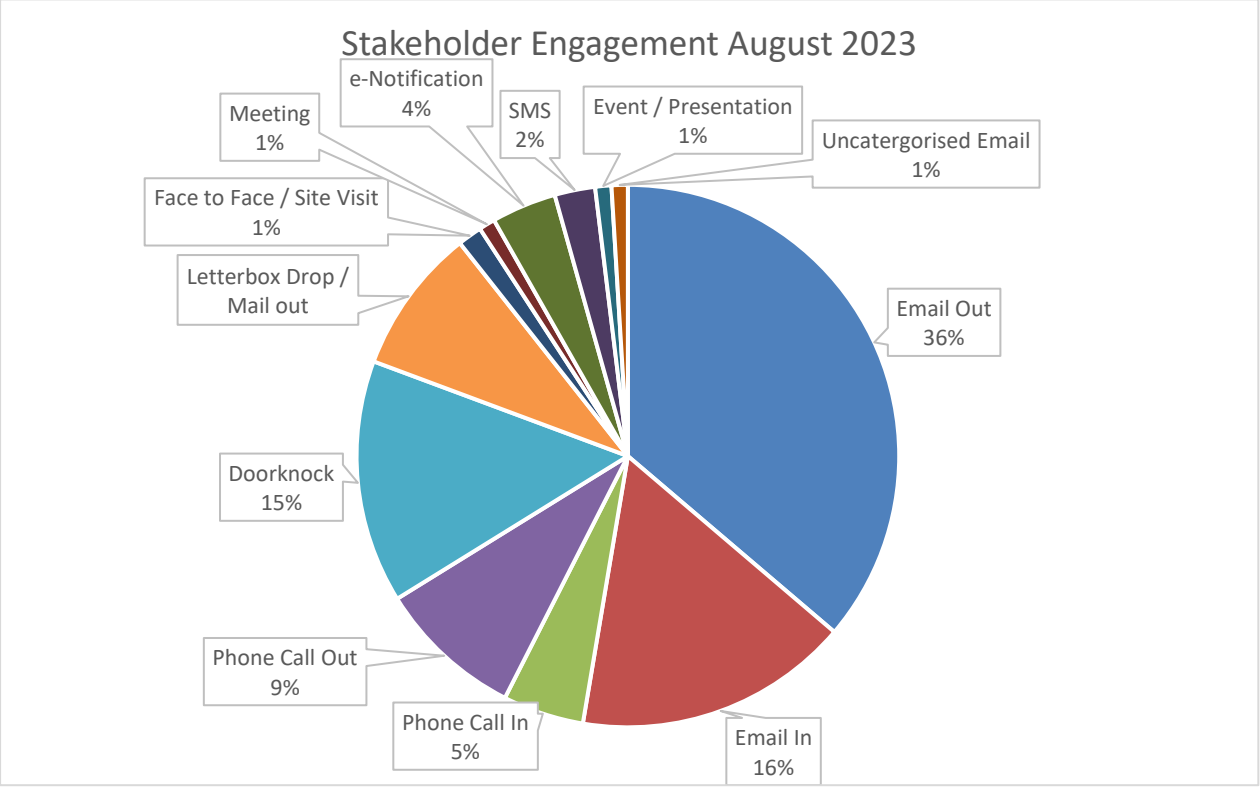
The Project Works complaints summary for the month is provided in the following chart.



When attended noise monitoring was undertaken in response to a complaint, the contractor confirmed on all occasions that works undertaken at the time of the complaint adhered to project requirements. In some instances, previously attended noise monitoring data, representative of the relevant construction activities was used to confirm the works adhered to the project noise requirements.

To close out a complaint, the monitoring data is reviewed (where applicable) against compliance with the CEMP, site environmental management plans and permits, and checks that required community notification has taken place. Contractors have also confirmed that planned mitigation to reduce the impact was implemented. This is reviewed together to verify if project requirements have been met.

For scheduled out of hours works, community notification was provided, as well as regular project updates. Stakeholder engagement undertaken on the project during the month is in the chart below.



2.4. New Upcoming Project Works

The key new planned Project Works for the coming months include:

Area	New planned works in the coming months
Mayne Area	**Mayne Yard North** – • BR08 embankment completion; • SMAR and HV access road works ongoing; and • Siding bridge works commencing. **Mayne Yard East / West** – • CSR and signalling works ongoing; • Services works ongoing; • Earthworks and drainage installation; and • Lawn Road removal – track, sleeper and turnout removal.
Northern Area	**RNA / Exhibition** – • BR44 Works – FRP, blockwork and structural steel install; • Station inground services install; and • Drainage works ongoing. **Northern Corridor –** • RMAR and drainage works at the Northern Portal ongoing; • PUPs and CSR Works ongoing; • Rail drainage; and • RCB steel fixing and concrete pours. **Northern Portal –** • Handover the site from TSD to RIS.
Central Area	**Roma Street** – • Cavern crown duct installation; • Lift shaft construction; • Station box B4 partition walls, fan core units and fit out installation; • Station box B2 to B4 service installation; • Pavilion piling mobilization; and • M&E Services Building B1 to B4 service installation & cable tray installation. **Albert Street** – • Lot 1 – slip FRP works ongoing and complete B7 suspended slab; • Lot 2 – Commence SPER & SER RIS room M & E, complete XPER RIS Room; and • Lot 3 – complete Level 0 suspended ground slab pours. **Woolloongabba –** • Escalators installation ongoing; • TVS Fans to be delivered on site; • Platform screen doors works to commence when South Cavern; • RMU rooms HV power connection to B7 transformers to occur in August. Handback of RMU rooms to Energex is planned for September; and • Telstra comms pit on Main St footpath to be constructed after the Energex pit is completed. **Boggo Road –** • Ongoing precast platform culverts and 21 vierendeel truss installation; • Perimeter and internal wall FRP works, including topping slab works; and • M&E fit-out continuing in the Northern and southern Back of Houses. **Southern Portal –** • Boggo Road south – last deck units to be installed; • MC01 and MC02 roof 'ski jump'; • Western and eastern abutment construction; • Ongoing sewer works at Dutton Street; and • Major SCAS works in September 2023. **Southern / Dutton Park** –

Southern Area	• Continuing works for Platform 1 retaining walls on Cope St & station entry; • Platform 1 – platform slab pours ongoing; • Platform 2 – continue installation of platform walls; • Noise walls progressing; • CSR works ongoing; and • Station structure installations – overpass support columns and canopies ongoing. **Fairfield Station –** • Continuing terminations, testing and fit-out onsite; • Equity St PWD and QR carpark works; • Continue hardscaping of Mildmay and Equity St; and • Continuation of station building fit out works. **Yeronga Station –** • Completion and certification of the station remains ongoing. **Clapham Yard** – • Aurizon fence (on top of RW650); • Civil Works – CSR works, retaining walls and drainage works ongoing; • Track Works – ballast install and tampering; • OHW Works – Structure installations; • Signalling Works ongoing; and • Electrical / Comms – Procurement & Planning stage. **Rocklea Station –** • Continuation of construction of retaining walls, foundations and slabs at station entrance; • Continue platform slab pours; • Continue structural steel installation; and • Overpass fit-out works.

2.5 Non-Compliance Events

No NCEs were recorded in August 2023.

The summary of NCEs to date is shown in the table below.

Status	Date of Event	Category	Area as on the Report	Relevant Condition	Gate 1	Gate 2	Gate 3	Gate 4
⊞ **Open**								
⊟ **Closed**								
CRRDA-001-RIS-001	9/11/19	Noise	Yeronga Station	4, 10, 11	10/11/19	14/11/19	26/11/19	18/12/19
CRRDA-002-TSD-001	27/03/20	ESC	Woolloongabba	4, 15, 18	30/03/20	31/03/20	22/04/20	11/06/20
CRRDA-003-TSD-002	27/03/20	ESC	Boggo Rd	4, 15, 18	30/03/20	31/03/20	22/04/20	11/06/20
CRRDA-005-TSD-004	27/03/20	Reporting	Multiple sites	4, 6, 11, 13	30/03/20	31/03/20	22/04/20	11/06/20
CRRDA-006-TSD-005	27/03/20	Air Quality	Multiple sites	13	30/03/20	31/03/20	22/04/20	11/06/20
CRRDA-004-TSD-003	28/03/20	Traffic	Boggo Rd	4, 10, 14	30/03/20	31/03/20	22/04/20	11/06/20
CRRDA-009-RIS-003	6/05/22	ESC	Clapham Yard	4	28/10/22	28/10/22	12/12/22	12/12/22
CRRDA-010-RIS-004	10/05/22	Acid Sulphate Soils Management	Clapham Yard	4, 19	28/10/22	28/10/22	12/12/22	12/12/22
CRRDA-11-RIS-005	23/11/22	Out Of Hours Works	Fairfield Station	4,10	14/07/23	14/07/23	14/07/23	12/09/23
⊟ **Withdrawn**								
CRRDA-007-RIS-002	1/04/20	Air Quality	Multiple sites	13	28/04/20	30/04/20	Withdrawn	
CRRDA-008-TSD-006	8/04/20	Working Hours	Roma Street	4,10	28/04/20	30/04/20	Withdrawn	

Gate 1 - EM notification to contractor. NCE confirmed
Gate 2 - 48 hour NCE notification submitted to CG
Gate 3 - 14 day report submitted
Gate 4 - 14 day report uploaded to CRR website

Appendix A RIS Monthly Report

Monthly CGCR Report August 2023

Cross River Rail – Rail, Integration and Systems Alliance

Assured Integration for a New Era

Table of Contents

1 Progress Summary - Relevant Project Works

The following Project Works were undertaken during the reporting period:

Table 1: Summary of Project Works completed during the reporting period

Area	Project Works
Mayne Area	**Mayne Yard North** • Handover of Vehicle Access Road to QR 17 Jul '23 (north of Ferny Grove Flyover). **Mayne Yard East / West** • Completion of BR12 • Shunter Shed East FRP and Structural Steel • Axillary Buildings commence FRP • RIS-N-7A.1 completion • CER foundation / CSR to Coms Team • CSR commenced in Mayne Yard East.
Northern Area	**RNA / Exhibition** • BR44 span pours • Platform FRP • Ekka bump-out period – Team reclaiming laydown area and continued rehab. **Northern Corridor** • RMAR pavements around Northern Portal • Drainage at Northern Portal.
Southern Area	**Southern Portal / Dutton Park** • Continued works for Platform 1 retaining walls on Cope St & station entry • Platform 01 – continued preparatory works for platform slabs • Platform 02 – continued installation of platform walls • Noise walls progress.
Southern Area	**Fairfield Station** • Continued terminations, testing and fit-out onsite • Equity St PWD and QR carpark works • Continued hardscaping of Mildmay and Equity St • Continuation of station building fit out works.
Southern Area	**Yeronga Station** • Completion and certification of the station remains ongoing.
Southern Area	**Clapham Yard** • Aurizon fence (on top of RW650) • Driveways and stone pitching along Fairfield Road • Civil Works – CSR works ongoing • Track Works – Tamping of DG, DGL, HR1 & HR2 continued • OHW Works – Structure installations • Signalling Works • Electrical / Comms – Procurement & Planning ongoing.
Southern Area	**Rocklea Station** • Ongoing construction of retaining walls, foundations and slabs at station entrance • Continued platform slab pours • Continued structural steel installation • Continuation of overpass fit-out works.

Acronyms:

CIP – Cast in Situ Piles
CSR – Combined Services Route
DL – Drainage Line
FRP – Form Reo Pour
HV – High Voltage
OHLE – Overhead Line Equipment
OTV – On Track Vehicle
PUP – Public Utility Plant
RCB – Rail Containment Bund
RMAR – Rail Maintenance Access Road
RNA - Royal National Agricultural and Industrial Association of Queensland
R&R – Remove and Replace
RSS – Reinforced Soil Slopes
RW – Retaining Wall
SCAS – Scheduled Corridor Access Schedule
SMAR – Services Maintenance Access Road
UTX – Under Track Crossing

The following table summarises the upcoming Project Works:

Table 2: Summary of upcoming Project Works

Area	Project Works
Mayne Area	**Mayne Yard North** • BR08 embankment completion • SMAR and HV access road works ongoing • Siding bridge works commencing. **Mayne Yard East / West** • CSR and signalling works ongoing • Services works ongoing • Earthworks and drainage installation • Lawn Road removal – track, sleeper and turnout removal.
Northern Area	**RNA / Exhibition** • BR44 Works – FRP, blockwork and structural steel install • Station inground services install • Drainage works ongoing. **Northern Corridor** • RMAR and drainage works at the Northern Portal ongoing • PUPs and CSR Works ongoing • Rail drainage • RCB steel fixing and concrete pours.
Southern Area	**Southern Portal / Dutton Park** • Continuing works for Platform 1 retaining walls on Cope St & station entry • Platform 1 – platform slab pours ongoing • Platform 2 – continue installation of platform walls • Noise walls progressing • CSR works ongoing • Station structure installations – overpass support columns and canopies ongoing
Southern Area	**Fairfield Station** • Continuing terminations, testing and fit-out onsite • Equity St PWD and QR carpark works ongoing • Continuing hardscaping of Mildmay and Equity St • Continuation of station building fit out works.
Southern Area	**Yeronga Station** • Completion and certification of the station remains ongoing.
Southern Area	**Clapham Yard** • Aurizon fence (on top of RW650) • Civil Works – CSR works, retaining walls and drainage works ongoing • Track Works – ballast install and tampering • OHW Works – structure installations • Signalling Works ongoing • Electrical / Comms – procurement and planning stage
Southern Area	**Rocklea Station** • Continuation of construction of retaining walls, foundations and slabs at station entrance • Continue platform slab pours • Continue structural steel installation • Overpass fit-out works.

2 Complaints

The below section summarises the complaints relating to the Project Works to be reported in accordance with Imposed Condition 6(b)(iii).

Table 3: Summary of Complaints

Date Received	Location	Issue	Project Works / Activity source of the concern	Reporting Period	Complaint Detail	Unity Response	Status
Thursday 21 August 2023	Yeerongpilly Station	Out of Hours Works	Rail Station Upgrade	August 2023	Stakeholder complained about traffic control lights and construction noise during night shift outside their property.	The Team advised that the Works were notified prior to commencement and the traffic control lights outside their property were necessary due to a temporary single lane closure. The works could not be undertaken during daytimedue to restrictions on traffic permits.	Closed
Monday 25 August 2023	Northern Corridor	Construction Noise and Dust	Rail corridor works	August 2023	Stakeholder complained about loud noise coming from UNITY work site. Stakeholder also advised of dust generated on site.	Team spoke with the site team and a short time after the works ceased. More frequent use of the water was implemented in this location.	Closed

3 Environmental Monitoring Results

The below section summarises the monitoring results to be reported in accordance with Imposed Condition 6(b)(i).

Acoustics

Imposed Condition 11(b) requires that during construction, monitoring and reporting on noise and vibration in accordance with the Noise and Vibration Management Plan, a sub-plan of the Construction Environmental Management Plan (C-EMP) occurs.

3.1.1 Noise Monitoring

Attended noise monitoring was triggered based on the predictive noise assessments for the Relevant Project Works during the reporting period.

Complaint-based noise monitoring because of Project Works was not triggered during the reporting period.

3.1.2 Noise Monitoring Results

Table 4 Summary of Noise Monitoring Data

Location	Receiver Type Details	Type of Monitoring	Work Hours	Monitoring date and time	Noise Type	Purpose of Monitoring	Predictive model (dBA)	Performance Goal 1 (dBA) (Condition 11(a), Table 2, $LA_{10/eq}$ noise goals)	Performance Goal 2 (dBA) – (Condition 11(c), Table 2 LA_{10} noise goal + 20dBA))	Measured LA_{10} (dBA)	Measured LA_{eq} (dBA)	DAP engagement prior to works	Is performance Goal exceeded?	Comments For interpretation, please refer to section
Salisbury Station	Commercial	Attended - Outdoors	Standard Hours	Friday, 18 August 2023	Intermittent	Model verification	81	65	85	82	77	Yes – case by case consultation undertaken	Yes – Goal 1 only	Monitoring was completed around 10m away from the works. The woodchipper was the dominant noise source. Monitoring was undertaken to validate the predictive noise model as this activity (tree clearing) had not previously been monitored in this location. The closest DAP was around 33m away from the works. The monitoring confirmed there was a 1dBA difference between the predicted and actual noise level. Works are compliant with CG condition 11(c) as advance notification and consultation was undertaken with DAPs.

- Note 2 of Imposed Condition 11 Table 2 states *Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (PFNC) a2pply*.
- The monitoring was undertaken to validate the model therefore external noise measurements are appropriate to determine the impact of construction noise.

- Note (2) – Façade Attenuation
  - Note 2 of Imposed Condition 11 Table 2 states *Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (PFNC) apply*.
  - The PFNC guideline can no longer be accessed. The Department of Environment and Science (DES) website still states this guideline is under review and is yet to release an alternative guideline
  - Former revisions of the PFNC table 7 stated the following regarding typical noise reductions through the building façade:
    - 5 dB – Window wide open
    - 10 dB – Partially closed
    - 20 dB – Single glazed, closed
    - 25 dB – Thermal double glazing, closed
  - The RfPC-4 Technical Report considered that all receptors had closed external single glazing for the assessment of construction noise impacts.
  - The Queensland Ombudsman assessed this assumption for the Airport Link Project and recommended that 10dB be adopted for major infrastructure projects in Queensland[1].
  - Additionally, several acoustic studies have shown that 10 dB is a suitable assumption for open windows. Most importantly this requirement only applies to temporary rail works within the project footprint and does not apply to long-term operational rail noise exposure.
  - Accordingly, it is considered appropriate to consider a 10 dB reduction on this basis. This assumption can be used for predictive modelling and for noise measurements, where indoor noise measurements are not practicable.

[2] Refer to the waterways and water quality management plan, a C-EMP sub-plan for details of derivation of the discharge criteria

3.1.3 Vibration Monitoring

Vibration monitoring to validate the predictive model was triggered.

Complaint-based vibration monitoring was not triggered. No complaints related to vibration were received during the reporting period.

Vibration monitoring to address property damage was not triggered by the predictive assessment.

3.1.4 Vibration Monitoring Results

Table 5 Summary of Vibration Data

Location	Date (Start and Finish)	Time of day	Closest DAP / Sensitive Place	Receiver Type (table 3 – Imposed Condition 11(e))	Purpose of Monitoring	Vibration intensive equipment	Maximum predicted vibration level	Shortest distance between Equipment and Sensitive Place @Time of Monitoring"	Maximum recorded vibration level	Vibration goal for receiver	Exceedance of vibration limit?	Comments
RNA – John MacDonald Stand	01/08/2023 to 31/08/2023	24 hours/ 7 days	John MacDonald	Heritage – DIN4150 Group 3	Construction Monitoring at Sensitive Places – Model Verification	2T rock breaker/ hydraulic hammer	0.5 mm/s	76 m	0.3 mm/s	3mm/s State heritage building	No	Monitor was installed at the John MacDonald Stand within a storeroom at the building's foundation. The monitor was approximately 94m away from the hammer (predicted 0.6 mm/s) and the closest point of the John Mac Stand from the hammering was 76m (predicted 0.5 mm/s). The recorded peak of 0.3 mm/s can be attributed to the hammer being used during rock breaking works underneath BR43.

3.1.5 Interpretation

The RIS scope of works continues to achieve the outcomes set out by the Imposed Conditions and OEMP.

3.1.6 Noise Monitoring

3.1.6.1 Model verification

Noise monitoring for model verification was triggered during the reporting period for the use of a woodchipper for tree clearing works.

The tree clearing was undertaken as part of the station upgrade works associated with the site establishment preparation works at Salisbury Station during standard construction hours across multiple weekdays.

Predictive modelling anticipated a noise level of 81 dBA LA_{10} (external). Attended outdoors noise monitoring confirmed that the actual noise level was 1 dBA higher than the predicted noise level.

UNITY undertook advance notification and consultation with DAPs. Therefore, the Works are compliant with CG condition 11(c).

The RIS scope of works continues to achieve the outcomes set out by the CGCR and OEMP.

3.1.7 Vibration Monitoring

Vibration monitoring was triggered during the reporting period for the use of a 2T hydraulic hammer for rock breaking works in proximity to the State heritage listed John MacDonald Stand.

The rock breaking was undertaken as part of the station building works at the RNA Showgrounds during standard construction hours. The monitor was located at the foundation of the John MacDonald Stand within a storeroom. This location was selected based on the outcomes of predictive assessments.

Predictive modelling anticipated vibration levels of 0.6 mm/s at the foundation of the John MacDonald Stand. Continuous 24-hour monitoring confirmed the actual vibration levels were marginally lower at 0.3 mm/s.

No exceedances of the revised vibration goal (3 mm/s) were recorded.

The RIS scope of works achieved the outcomes set out by the CGCR and OEMP.

Air Quality

Imposed Condition 13(b) requires that during construction, monitoring, and reporting on air quality in accordance with the Air Quality Management Plan, a sub-plan of the C-EMP occurs.

Visual monitoring was undertaken during routine environmental inspections. A total of 36 inspections were undertaken by the Environment Team across Mayne Yard, RNA Showgrounds, Northern Corridor, Southern Area, Fairfield Station, Yeronga Station, Clapham Yard and Rocklea Station.

UNITY has installed the following air quality monitoring devices, therefore data collected from these devices, when active, is reported on in the monthly report regardless of the Project Works occurring.

Table 6 Summary of Air Quality monitoring devices

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
Dust Deposition Gauge	RNA Showgrounds	AQ-01	13 December 2019	Active
Dust Deposition Gauge	Mayne Yard (Eastern Air Shed)	AQ-04	13 February 2020	Active

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
Dust Deposition Gauge	Clapham Yard (Eastern Air Shed)	AQ-06	1 February 2021	Active
Dust Deposition Gauge	Yeronga Station	AQ-07	12 August 2021	Inactive DDG was decommissioned on 10 December 2021 following the completion of earthworks
Dust Deposition Gauge	Dutton Park	AQ-08	8 July 2022	Active
TSP / PM_{10} Monitor	Mayne Yard North (Eastern Air Shed)	Mayne Yard North	26 August 2022	Inactive as of 11 May 2022 CAQP confirmed that the Mayne Yard DMP can be temporarily decommissioned following the completion of Mayne Yard North earthworks. DMP was reinstated for Mayne Yard East Works on 26 August 2022 – see below.
TSP / PM_{10} Monitor	Mayne Yard East (Eastern Air Shed)	Mayne Yard East	26 August 2022	Inactive during reporting period. DMP was sent out for annual calibration to the supplier in NSW on 5 June 2023.
TSP / PM_{10} Monitor	Clapham Yard (Eastern Air Shed)	Clapham Yard	9 August 2021	Partially active during reporting period. Recurring battery issues led to the monitor being replaced by a different monitor on 29 August 2023.
TSP / PM_{10} Monitor	RNA (Western Air Shed)	RNA	25 August 2020	Active during reporting period.

3.1.8 Dust results

As passive dust deposition gauges (DDG) are analysed monthly, results span:

- RNA, Clapham Yard and Dutton Park:
  - 11 July 2023 to 09 August 2023
- Mayne Yard East:
  - 11 July 2023 to 11 August 2023

The results are detailed below and compared against Imposed Condition 13(b).

Table 7 Dust deposition gauge results for the reporting period

CGCR Goal ($mg/m^2/day$)	AQ-01 - RNA Showgrounds ($mg/m^2/day$)	AQ-04 Grafton Street (E Mayne) ($mg/m^2/day$)	AQ-06– Clapham Yard ($mg/m^2/day$)	AQ-08 – Dutton Park ($mg/m^2/day$)
120	40	60	23	53
Total Rainfall during Period (mm)	30	32	30	30

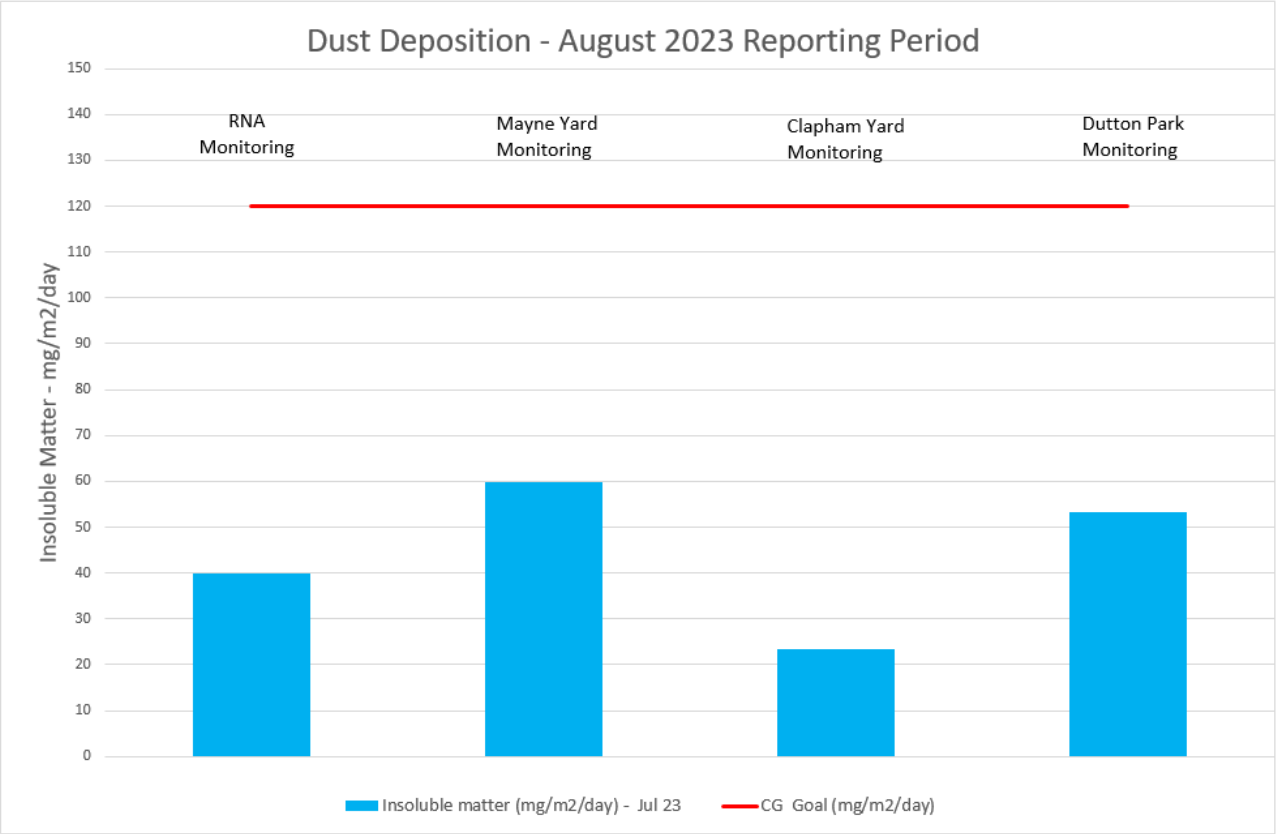


Figure 1 Air Quality Monitoring (Deposited Dust) Results

As no exceedances of the dust deposition goal were recorded during the reporting period, the Project continues to meet their requirements under Imposed Condition 13 and the OEMP.

3.1.9 Particulates Results

3.1.9.1 Air Quality Monitoring Stations

UNITY had one (1) active and one (1) partially active air quality monitoring stations and one (1) station out for annual calibration in place for the reporting period as detailed in Table 6.

3.1.9.2 Monitoring Results – Reporting Period

External ambient air quality data was collected for total suspended particles (TSP), and particulate matter less than 10 µm (PM_{10}).

TSP is one of the indicators for which the Coordinator-General has imposed a goal of 80 µg/m3 (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

PM_{10} is one of the indicators for which the Coordinator-General has imposed a goal of 50 µg/m3 (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

These stations have been installed on-site as per AS/NZS 3850 1.1 following consultation with UNITY air quality professionals. The results are represented in the below figures.

Note that Clapham Yard monitor did not record TSP data when the new monitor was installed. Investigation into and rectification of this error is currently underway.

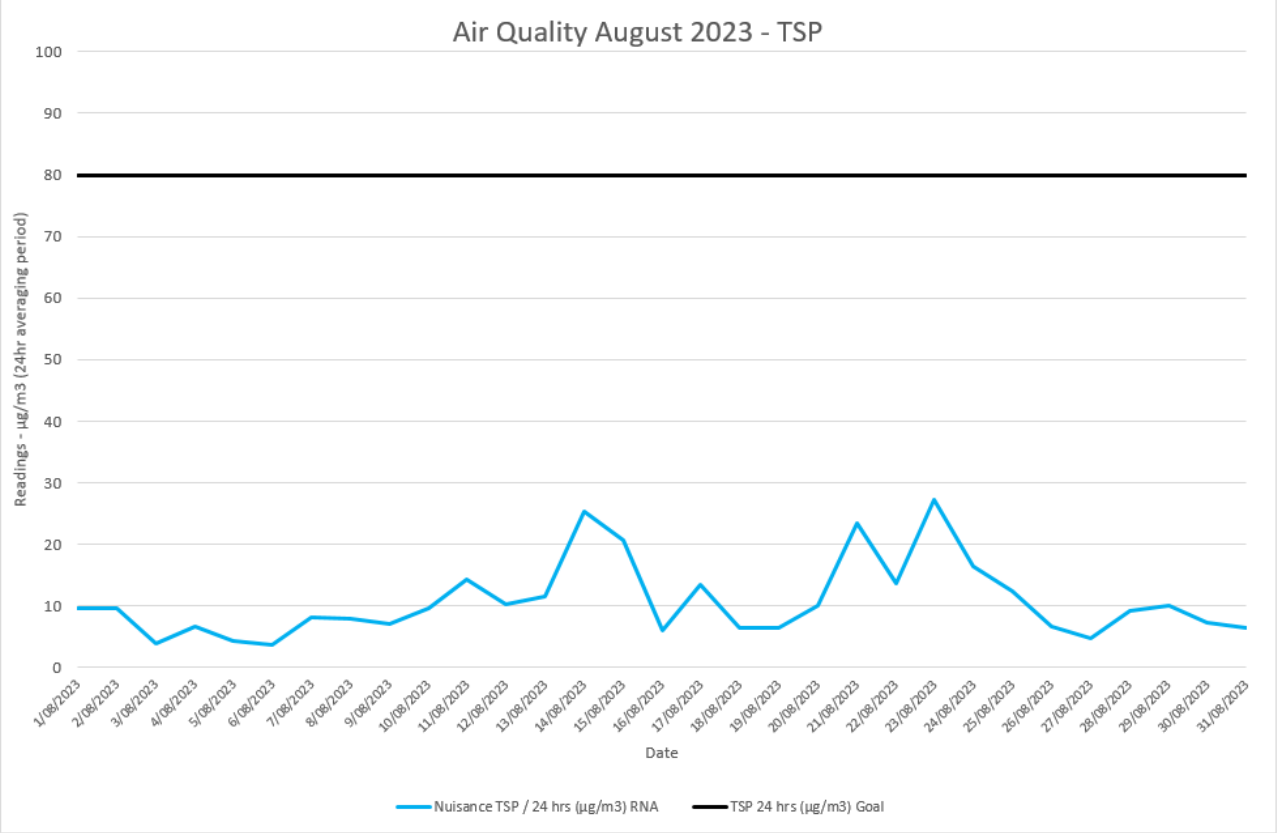


Figure 2 Air Quality Monitoring (TSP) Results

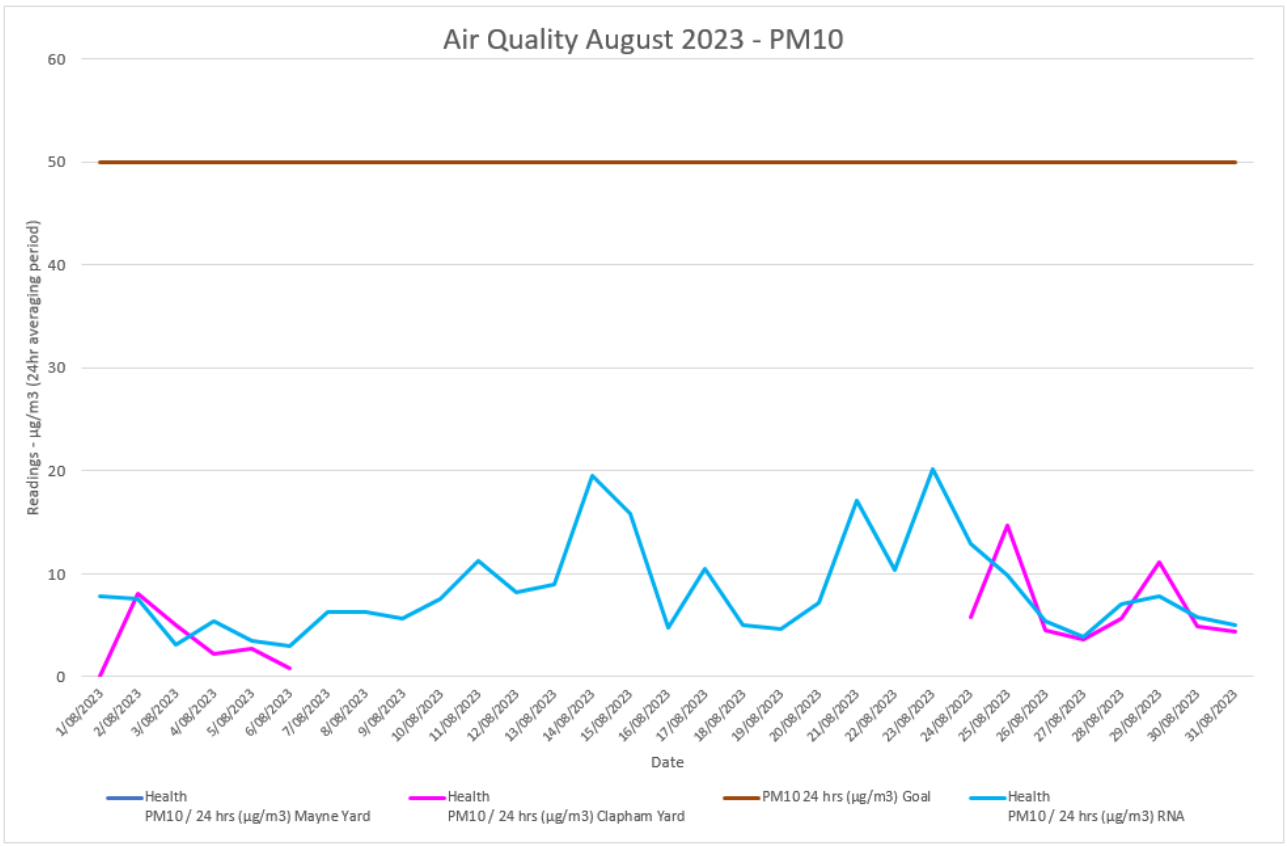


Figure 3 Air Quality Monitoring (PM10) Results

3.1.10 Monitoring Results – Annual Averaging

Imposed Condition 13 (a) sets annual average air quality goals for TSP (Human health) and PM_{10} (Human health).

The below table summarises where TSP and PM_{10} monitoring have been carried out over the last 12 months.

The National Environment Protection (Ambient Air Quality) Measure Technical Paper No.5 provides guidance and procedures for uniform data recording and handling. (https://www.nepc.gov.au/system/files/resources/9947318f-af8c-0b24-d92804e4d3a4b25c/files/aaqprctp05datacollection200105final.pdf).

For air quality data to be officially reported, as per section 4.5 of Technical Paper No. 5, the minimum data capture would be 75% of the year or 274 days.

"It is essential that data loss is kept to an absolute minimum. For representative monitoring data and for credible compliance assessment it is desirable to have data capture rates higher than 95%. 75% data availability is specified as an absolute minimum requirement for data completeness".

In some instances, Relevant Project Works, which triggered TSP and PM_{10} monitoring was carried out for less than 274 days (e.g., at the Northern Corridor). In such instances the annual averages are still reported but are indicative only as data capture did not meet the 75% data capture requirements of *National Environment Protection (Ambient Air Quality) Measure Technical Paper No. 5 – Data Collection and Handling.*

Table 8 Summary of Air Quality Monitoring Devices Over 12 months

Monitoring Device Installed by UNITY	Area	Date Installed	Date Decommissioned	Number of days data was captured over 365 days period	Data capture over an annual period	Annual performance reporting
TSP / PM_{10} Monitor	Northern Corridor (Eastern Air Shed)	23 April 2020	13 January 2021	260 over 365 days	71% over 365 days	*Indicative only* Data capture did not meet the minimum data capture requirements
TSP / PM_{10} Monitor	Mayne Yard North (Eastern Air Shed)	23 April 2020	11 May 2022	**Period 1** (to 23 April 2021) 358 over 365 days **Period 2** (24 April 2021 to 25 April 2022) 364 over 365 days **Period 3** (26 April 2022 to 11 May 2022) 3 days over 47 days	**Period 1** 98% over 365 days **Period 2** 99% Over 365 days **Period 3** 17% Over 47 days	**Applicable for Period 1** Data capture met minimum data capture requirements **Applicable for Period 2** Data capture has met minimum data capture requirements **Applicable for Period 3** Data capture has not met minimum data capture requirements

Monitoring Device Installed by UNITY	Area	Date Installed	Date Decommissioned	Number of days data was captured over 365 days period	Data capture over an annual period	Annual performance reporting
TSP / PM_{10} Monitor	Mayne Yard East (Eastern Air Shed)	26 August 2022	Not yet decommissioned	**Period 1** (Started 26 August 2022) 211 days over 365 days **Period 2** (Started 27 August 2023) 0 days over 5 days	**Period 1** 58% Over 365 days **Period 2** 0% over 5 days	**Applicable for Period 1** Data capture did not meet minimum data capture requirements **Not yet applicable for Period 2** Data capture has not yet met minimum data capture requirements
TSP / PM_{10} Monitor	RNA (Western Air Shed)	11 June 2020	Not yet decommissioned	**Period 1** (to 11 June 2021) 314 over 365 days **Period 2** (12 June 2021 to 12 June 2022) 290 over 365 days **Period 3** (Started 13 June 2022) 310 over 365 days **Period 4** (Started 14 June 2023) 79 over 80 days	**Period 1** 86% over 365 days **Period 2** 79% Over 365 days **Period 3** 85% Over 350 days **Period 4** 98% Over 80 days	**Applicable for Period 1** Data capture met minimum data capture requirements **Applicable for Period 2** Data capture met minimum data capture requirements **Applicable for Period 3** Data capture met minimum data capture requirements **Not yet applicable for Period 4** Data capture has not yet met minimum data capture requirements

Monitoring Device Installed by UNITY	Area	Date Installed	Date Decommissioned	Number of days data was captured over 365 days period	Data capture over an annual period	Annual performance reporting
TSP / PM_{10} Monitor	Clapham Yard (Eastern Air Shed)	1 February 2021	Not yet decommissioned	**Period 1** (to 31 January 2022) 326 over 364 days **Period 2** (01 February 2022 to 31 January 2023) 190 over 365 days **Period 3** (started 01 February 2023) 115 over 212 days	**Period 1** 90% over 364 days **Period 2** 57% Over 365 days **Period 3** 54% Over 212 days	**Applicable for Period 1** Data capture met minimum data capture requirements **Applicable for Period 2** Data capture did not meet the minimum data capture requirements **Not yet applicable for Period 3** Data capture has not yet met the minimum data capture requirements

The below table summarises the applicable and indicative annual data results for TSP and PM_{10} against the performance goals imposed under Condition 13(a). Results in italic are indicative only.

Table 9 Annual Performance Results

Air Quality Indicator	Goal	Period	Northern Corridor	Mayne Yard North	Mayne Yard East	RNA	Clapham Yard
TSP	90 µg/m^3	Period 1	*8 µg/m^3*	11 µg/m^3	9 µg/m^3	18 µg/m^3	8 µg/m^3
		Period 2	-	10 µg/m^3	-	15 µg/m^3	16 µg/m^3
		Period 3	-	Not applicable	-	13 µg/m^3	Not yet applicable
		Period 4	-	Not applicable	-	Not yet applicable	-
PM_{10}	25 µg/m^3	*Period 1*	*5 µg/m^3*	7 µg/m^3	11 µg/m^3	11 µg/m^3	5 µg/m^3
		Period 2	-	7 µg/m^3	-	10 µg/m^3	14 µg/m^3
		Period 3	-	Not yet applicable	-	10 µg/m^3	Not yet applicable
		Period 4	-	Not applicable	-	Not yet applicable	-

3.1.11 Interpretation

3.1.11.1 Particulates Results

External ambient air quality was collected for total suspended particulates (TSP) and particulate matter less than 10µm (PM_{10}).

TSP is one of the indicators for which the Coordinator General has imposed a goal of 80µg/m^3 (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

PM_{10} is one of the indicators for which the Coordinator General has imposed a goal of 50µg/m^3 (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

These stations have been installed on-site as per AS/NZS 3850 1.1 following consultation with UNITY Certified Air Quality Professionals (CAQP).

During the reporting period:

- None of the particulate results exceeded their relevant goals for TSP and PM_{10} at RNA and Clapham Yard
- There were no complaints received associated with air quality concerns for the sites of Mayne Yard, RNA and Clapham Yard
- The Mayne Yard East DMP was out for annual calibration, and
- The Clapham Yard DMP did not record sufficient data between 06 to 09 August 2023. It was replaced by a different monitor on 10 August 2023. Due to technical issues associated with the installation and operation of the new monitor, The data available for this reporting period was limited with results available from the 24th August 2023.

3.1.11.2 Mayne Yard East August Interpretation

Due to the DMP requiring annual calibration by the supplier interstate there was no particulates data recorded for the reporting period. The re-calibration of the equipment was sent to Sydney on the 9th of August, part of the unit was found to be faulty and a replacement component was ordered delaying the return of the unit.

The unit was received by UNITY in mid August but was not able to be reinstalled in the same location due to site constraints. Advice was sought from UNITY's CAQP in regard to siting for a new location, after the unit was installed at an approved location following the August reporting period.

As a result, UNITY has undertaken an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP.

3.1.11.2.1 UNITY Works

During the reporting period Mayne Yard East Works consisted of bridge works, FRP, structural steel and CSR Works.

3.1.11.2.2 Meteorological Conditions

As shown in the wind rose below (refer Figure 4) the predominant winds during the reporting period were from a south-easterly direction. As a result, any potential dust generated from UNITY works would have travelled north-west across the Mayne Yard work areas and towards the dust deposition gauge located at Grafton Street, Windsor (refer to Attachment 3).

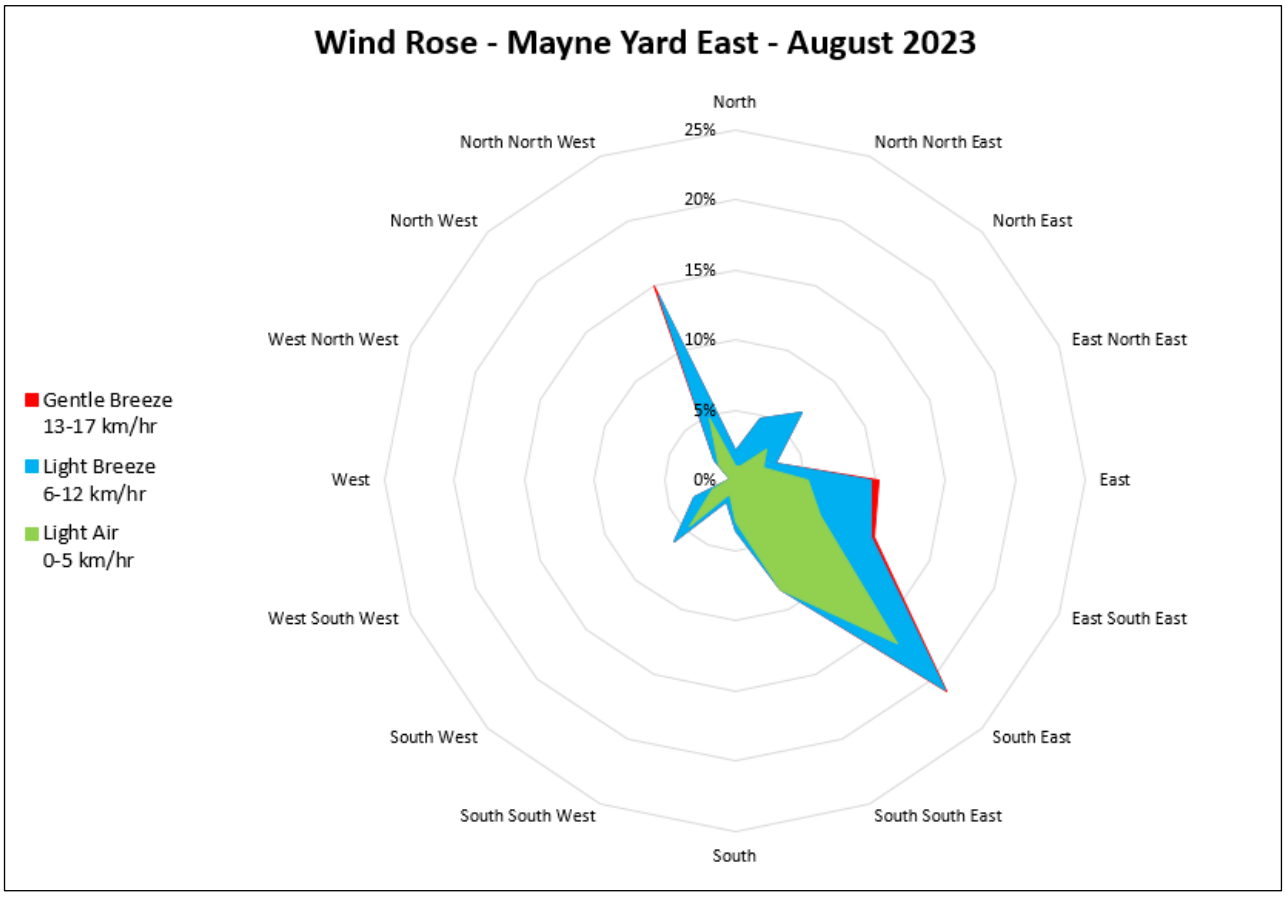


Figure 4 Mayne Yard East Wind Rose August 2023

3.1.11.2.3 Air Quality Complaints

During the reporting period, no air quality complaints were received for works associated with Mayne Yard East from nearby sensitive receivers.

Therefore, despite the absence of particulates data for the reporting period, the Project CAQP has confirmed that the RIS scope of works has met the project outcomes set out by the CGCR and OEMP.

3.1.11.3 Clapham Yard Insufficient Data 01 – 28 August 2023

- During the reporting period between 06 to 09 August 2023 the Clapham Yard DMP did not record a sufficient volume of data (minimum 18-hours, or 75% over a 24-hour period). This was due to repeated battery failure. The monitor has since been replaced by another monitor from 10 August 2023. Due to technical issues associated with the installation and operation of the new monitor, The data available for this reporting period was limited with results available from the 24th August 2023.

As a result, UNITY has undertaken an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP.

3.1.11.3.1 UNITY Works

During the insufficient data period Clapham Yard Works consisted of fencing, driveways and pavements, CSR, track and OHW Works.

The Clapham Yard site is almost entirely capped and exposed areas such as batters and stockpiles have been glued down with polymer spray. Water carts also run frequent rotations daily on all haul/access roads.

3.1.11.3.2 Meteorological Conditions

As shown in the wind rose below (refer Figure 5) the predominant winds during the insufficient data period were predominantly from south easterly and westerly directions. As a result, any potential dust generated from UNITY works would have predominantly travelled west across the Clapham Yard work areas towards the Fairfield Road industrial/commercial DAPs.

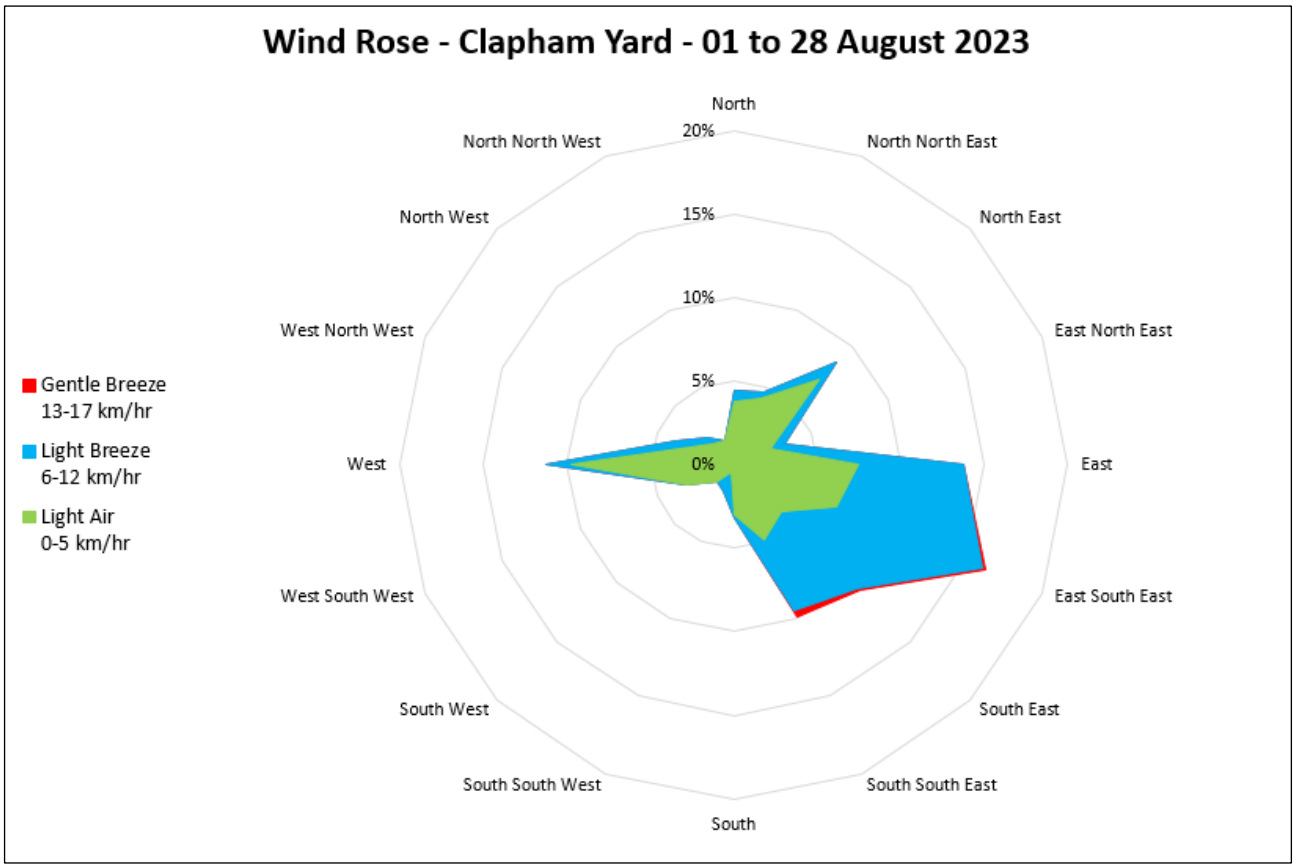


Figure 5 Clapham Yard 01 to 28 August 2023 Wind Rose

3.1.11.3.3 Air Quality Complaints

During the reporting period, no air quality complaints were received for works associated with Clapham Yard from nearby sensitive receivers.

Therefore, despite the absence of particulates data for the reporting period, the Project CAQP has confirmed that the RIS scope of works has met the project outcomes set out by the CGCR and OEMP

Finally, the Project continues to meet their requirements under Imposed Condition 13 and the OEMP.

Water Quality

Imposed Condition 15(b) requires that during construction, monitoring, and reporting on water quality in accordance with the Water Quality Management Plan, a sub-plan of the C-EMP, occurs.

Imposed Condition 15(a) requires that discharges of groundwater from Project Works within the Breakfast Creek catchment must comply with the Brisbane River Estuary environmental values and water quality objectives (Basin no.143 – mid-estuary) in the *Environment Protection (Water) Policy 2009*.

Imposed Condition 15(a) requires that discharges of groundwater from Project Works within Moolabin Creek, Yeerongpilly – Oxley Creek catchment must comply with the Oxley Creek - Lowland freshwater environmental values and water quality objectives (Basin no.143 (part) – including all tributaries of the Creek) in the *Environment Protection (Water) Policy 2009*.

Water quality monitoring to demonstrate compliance with Imposed Condition 15(a) was not triggered during the reporting period. There were no groundwater discharges during the reporting period.

Water quality monitoring to demonstrate compliance with Condition 15(b) was not triggered during the reporting period.

3.1.12 Rainfall Records

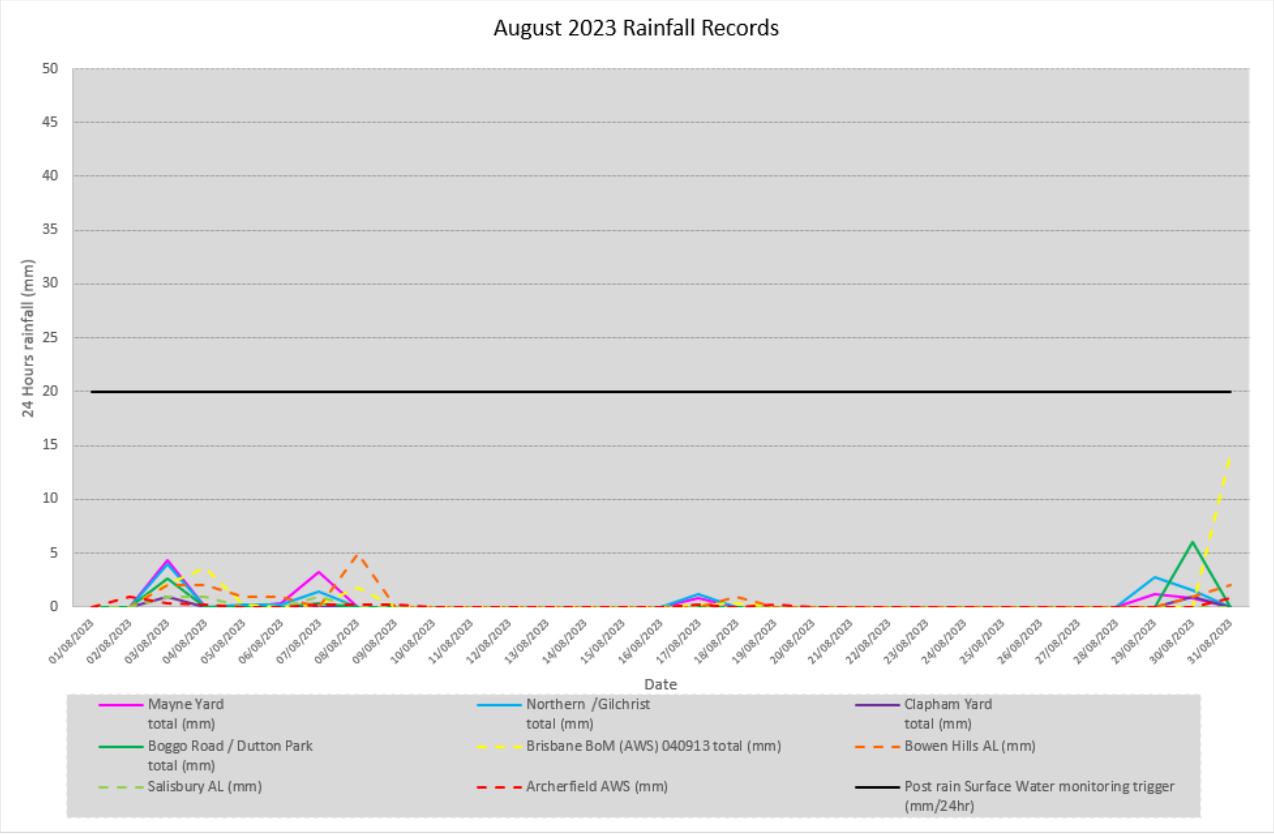


Figure 6 August 2023 Rainfall Records

3.1.13 Post Rainfall Monitoring Results

Post rainfall monitoring is triggered typically following any rainfall event exceeding 20 to 25 mm over 24 hours, however, storm events during the high-risk period of the year (November to March) of lesser amounts but of a higher intensity may cause run-off which would also trigger post-rain monitoring consistent with the C-EMP.

Post rainfall monitoring was not triggered as per Condition 15(b) and Condition 18.

Therefore, the RIS scope of works were compliant with CG conditions 15 and 18.

3.1.14 Routine Surface Water Monitoring Results

During the reporting period, UNITY did not undertake routine surface water quality monitoring.

A review of the data sample has identified that over 12 months of continuous data collection has occurred with over 20 monitoring events. The frequency of background monitoring has therefore been reduced to bi-annually, with the dry season (April to August) monitoring completed during the monitoring period.

Wet season (November to March) monitoring is scheduled for later in the year.

This reduction of monitoring frequency is acceptable to continue informing the Dis-1 Credit for the ISCA 'Excellent Rating' the Project is pursuing.

3.1.15 Groundwater Discharge Monitoring Results

Groundwater discharge monitoring was not triggered during the reporting period.

3.1.16 Surface Water Discharge Monitoring

Surface water discharge monitoring was triggered during the reporting period.

Table 10 Surface Water Discharge Results

Date	Location	Waterway	Discharge Criteria[2]			
			Turbidity (NTU) Nil until Turbidity / TSS correlation achieved[3]	TSS (mg/L) <50	DO (%) Nil	pH (pH Unit) Stable pH reading; and General sites: 6.5 – 8.5, or Wallum/Acidic Ecosystems: 5.0 – 7.0
03/08/2023	RNA	Stormwater – Breakfast Creek	4.39 NTU	N/A	86.0	pH 8.14
04/08/2023	Mayne Yard North	Breakfast Creek	4.8 NTU	N/A	92.1	pH 7.1
07/08/2023	Mayne Yard North	Breakfast Creek	33.28 NTU	N/A	88.4	pH 7.6
17/08/2023	Yeronga	Stormwater – Brisbane River	1.76 NTU	N/A	101.5	pH 7.1
25/08/2023	Mayne Yard North	Breakfast Creek	9.6 NTU	N/A	99.8	pH 6.7

[2] Refer to the waterways and water quality management plan, a C-EMP sub-plan for details of derivation of the discharge criteria

[3] Correlations are typically run on the source water (i.e., basins) not the receiving system where there is a dilution component of potentially diffuse sources of sediments from non-Project related areas. Due to the very limited amount of discharges the RIS Scope of Works has experienced, there is no correlation available. Typically, a minimum of 20 data points is used to determine TSS / in field turbidity correlation for site waters.

4 Compliance Review

Non-Compliance Events

The below section summarises the events to be reported in accordance with Imposed Condition 5 and Imposed Condition 6(b)(ii). A non-compliance event (NCE) is defined as Project Works that do not comply with the Imposed Conditions.

4.1.1 Non-Compliance Events Summary

Table 11 Summary of Non-Compliance Events

Event Title	Location, Date, and time of event	Date the Event was Formally Notified to CG/IEM	Conditions Affected	Date the Event Report Formally Sent to CG/IEM	Status of Event
Not applicable					

C-EMP Compliance

The below table summarises compliance status with the C-EMP and monitoring requirements of relevant sub-plans for the reporting period.

Table 12 C-EMP and relevant Subplans monitoring requirements – Compliance Status for the reporting period

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Air Quality	Visual monitoring program + Additional particulate monitoring as required based on the outcomes of the predictive assessment/risk profile	Moderate to High	Yes – visual monitoring is undertaken as part of routine inspections. Monitoring for TSP, PM_{10}, and deposited dust was also undertaken. TSP, PM_{10} monitoring was carried out for one active Worksite and partially carried out for one worksite.	Compliant Compliant Compliant	Not Applicable
Air Quality	Complaint's response	Moderate to High	Not triggered	Compliant	Not Applicable
Noise	Buffer distance tests based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – model verification triggered for one event	Compliant	Not Applicable
Noise	Plant noise audits for noisy plant to validate models input as required	Moderate to High	No	N/A	Not Applicable
Noise	Complaint's response	Moderate to High	Not triggered	N/A	Not Applicable
Vibration	Construction Monitoring at Sensitive Places / DAPs - Model verification based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – model verification triggered for one event	Compliant	Not Applicable
Vibration	Complaint's response	Moderate to High	Not triggered No complaints	N/A	Not Applicable

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Water Quality	Bi-Annual monitoring	N/A	Not triggered Dry season monitoring completed last month. Wet season monitoring to be completed later in the year.	Compliant	Not Applicable
Water Quality	Post Rainfall	Moderate to High	Not triggered	Compliant	Not Applicable
Water Quality	Dewatering	Moderate to High	Yes – Discharge to stormwater completed for five (5) dewatering events	Compliant	Not Applicable

Attachment 1 Imposed Conditions Non-Compliance Event Report (if required)

Attachment 2 Monitoring Locations – Noise and Vibration

Figure 7 Salisbury Noise Monitoring August 2023

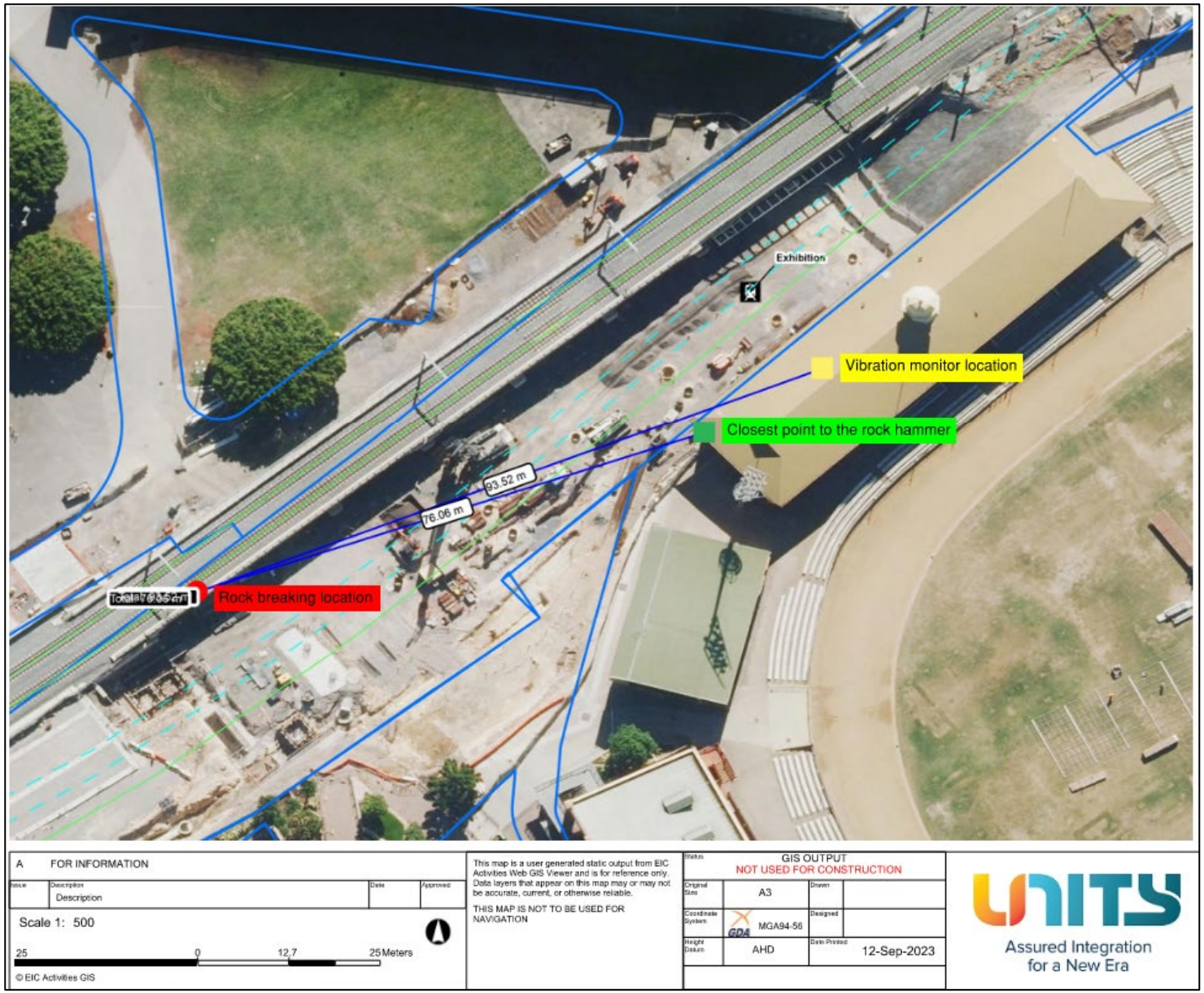
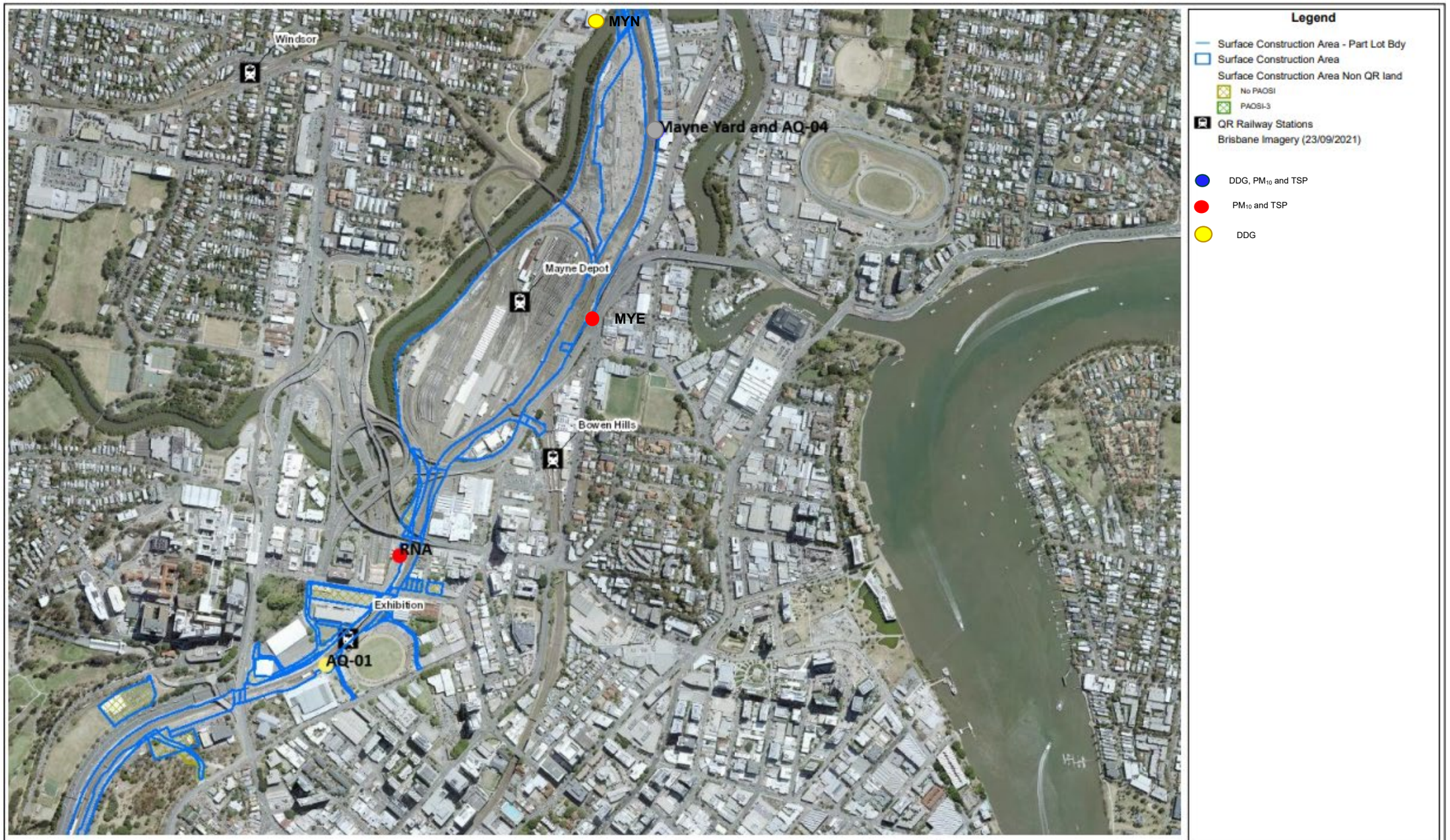


Figure 8 RNA Vibration Monitoring August 2023

Attachment 3 Monitoring Locations – Air Quality



A FOR INFORMATION

Issue	Description	Date	Approved

Scale 1: 10,000

508 0 254.0 508 Meters

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Status	GIS OUTPUT NOT USED FOR CONSTRUCTION		
Original Size	A3	Drawn	
Coordinate System	GDA MGA94-56	Designed	
Height Datum	AHD	Date Printed	9-Feb-2022

Assured Integration for a New Era

Cross River Rail - RIS Alliance

Air Quality Monitoring

Legend

210 - Alignment Lines
- Centre Line
- Chainage Symbol
- Centre Line - Cleveland
- Centre Line - Cleveland Proposed
- Centre Line - Dual Gauge Proposed
- Centre Line - Dual Gauge
- Centre Line - Fisher Proposed
- Centre Line - Freight
- Centre Line - Freight Proposed
- Sub_CRR_UP_CL; Sub_UP_CRR_CL
- Sub_UP_CRR_CL_Mainline
- Track - Centreline - Dual Gauge
- Track - Centreline - Narrow Gauge
- Track - Centreline Dual Gauge New
- Track - Centreline Existing
- Track - Centreline Proposed
- Track - Centreline To Be Removed
- Centre Line - Turnout Above
- Centre Line - Turnout Proposed
- Centre Line - Sub CRR Existing

Surface Construction Area - Part Lot Bdy
Surface Construction Area
QR Railway Stations
Brisbane Imagery (12/07/2022)

DDG
DDG, PM_{10} and TSP
PM_{10} and TSP

Issue	Description	Date	Approved
A	FOR INFORMATION		
	Dutton Park		

Scale 1: 1,606

82 0 40.8 82 Meters

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Status: GIS OUTPUT
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Original Size	A3	Drawn	
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Height Datum	AHD	Date Printed	19-Sep-2022

Assured Integration
for a New Era

Cross River Rail - RIS Alliance

Air Quality Monitoring

Dutton Park

Legend

- Surface Construction Area - Part Lot Bdy
- Surface Construction Area
- Surface Construction Area Non QR land
  - No PAOSI
  - PAOSI-3
- QR Railway Stations
- Brisbane Imagery (23/09/2021)
- DDG
- DDG, PM10 and TSP
- PM10 and TSP

Issue	Description	Date	Approved
A	FOR INFORMATION		

Scale 1: 6,865

349 0 174.4 349 Meters

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Status	GIS OUTPUT NOT USED FOR CONSTRUCTION		
Original Size	A3	Drawn	
Coordinate System	GDA MGA94-56	Designed	
Height Datum	AHD	Date Printed	9-Feb-2022

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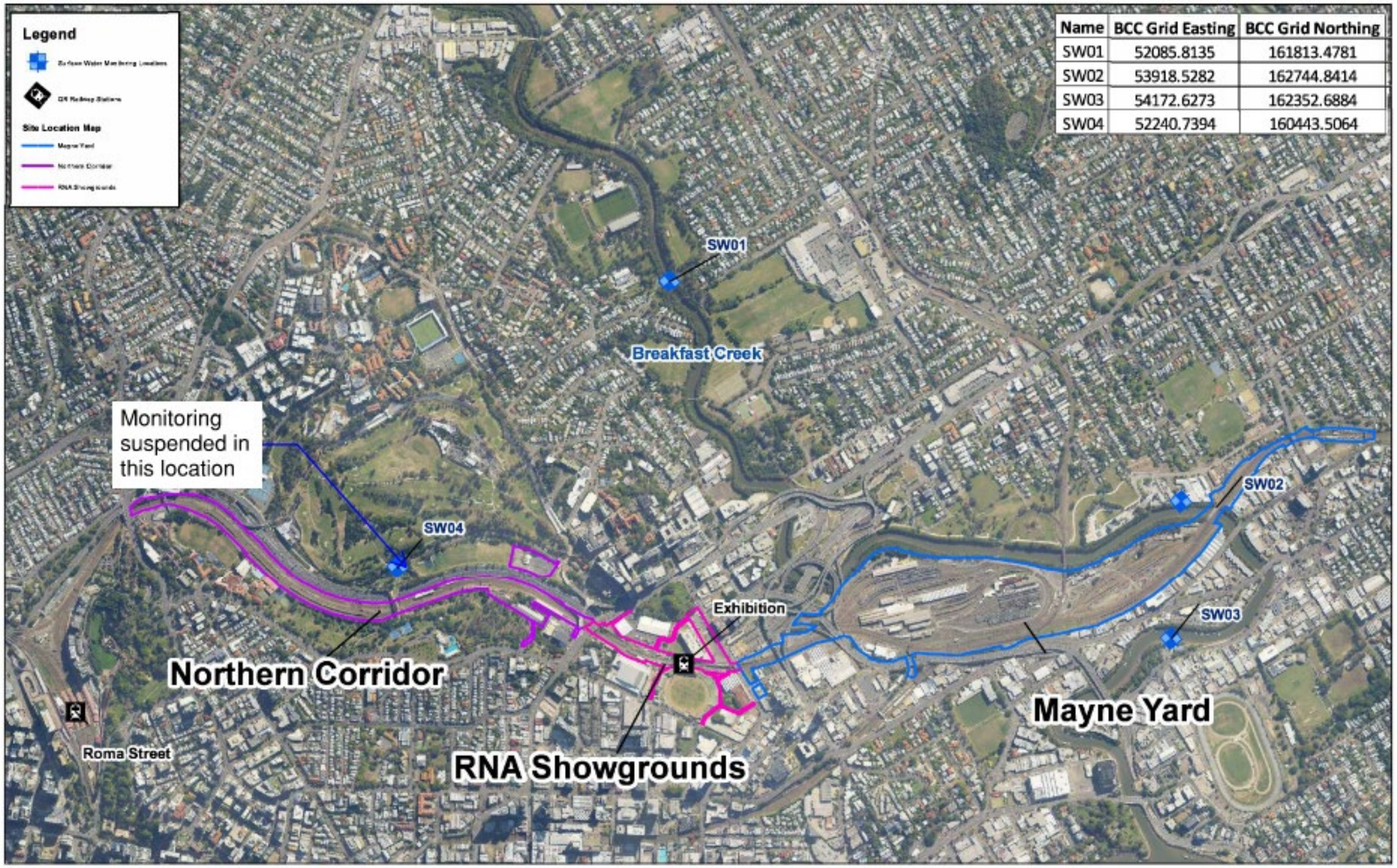
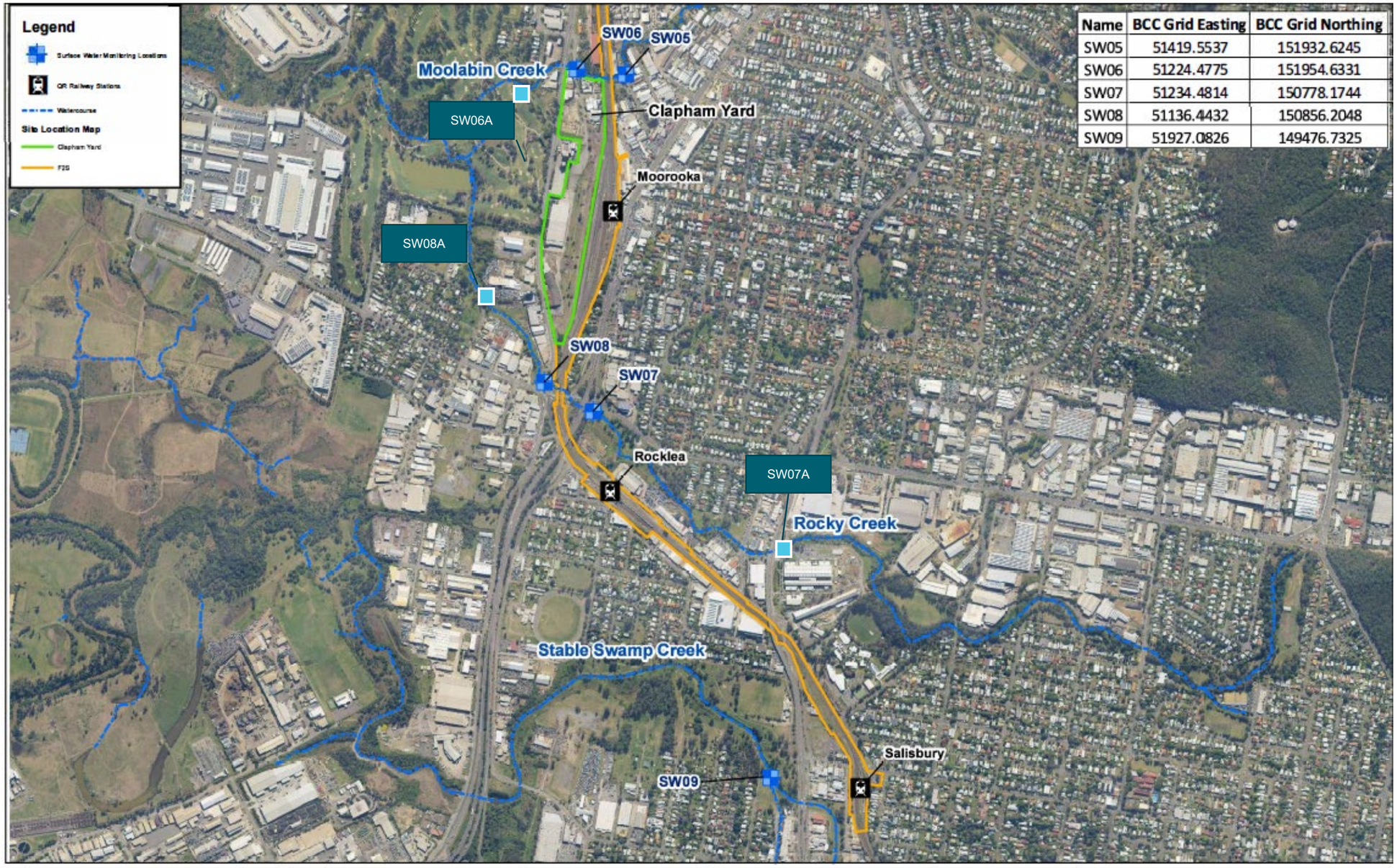
Cross River Rail - RIS Alliance

Air Quality Monitoring

Attachment 4 Monitoring Locations – Surface Water


Legend
Site Location Map
Mayne Yard
Northern Corridor
RNA Showgrounds
SW01
SW02
SW03
SW04
Breakfast Creek
Exhibition
Roma Street
Monitoring suspended in this location
Name | BCC Grid Easting | BCC Grid Northing
SW01 | 52085.8135 | 161813.4781
SW02 | 53918.5282 | 162744.8414
SW03 | 54172.6273 | 162352.6884
SW04 | 52240.7394 | 160443.5064
0 100 200 400 600 m
Scale 1 : 12,000 cm
Status
Issued for Information
Original Size A3
Drawn GIS
Coordinate System GDA 1994 BCSC07
Designed UNITY
Height Datum AHD
Date Printed 2/13/2020
Filename: Surface_Water_Northern_Area_Map.mxd
1 Overview Map 17/03/2019 UNITY
Rev Description Date Approved
Project Wide Surface Water Investigation
Figure 1 - Surface Water Monitoring Locations
Project Number
Discipline ENV
Document PL
Document Number 002
Rev 1



Name	BCC Grid Easting	BCC Grid Northing
SW05	51419.5537	151932.6245
SW06	51224.4775	151954.6331
SW07	51234.4814	150778.1744
SW08	51136.4432	150856.2048
SW09	51927.0826	149476.7325

Rev	Description	Date	Approved
1	Southern Overview Map	17/09/2019	Unity

0 100 200 400 600 m
Scale 1 : 12,000 cm

Status: Issued for Information

Original Size	A3	Drawn	GIS
Coordinate System	GDA 1994 BCSG©	Designed	Unity
Height Datum	AHD	Date Printed	2/13/2020
Filename:	Surface_Water_Southern_Area_Map.mxd		

N

Project Wide Surface Water Investigation

Figure 2 - Surface Water Monitoring Locations

Project Number	Discipline	Document	Document Number	Rev
	ENV	PL	002	1

Appendix B TSD Monthly Report

COORDINATOR-GENERAL'S MONTHLY REPORT: August 2023

Prepared in accordance with Coordinator-General Imposed Condition 6 - Reporting.

1. Monthly Monitoring Summary

It is CBGU Joint Venture's intent to aim for the Goals and Objectives relevant to vibration, noise, air quality and water monitoring within the practical extent of delivering the Project.

Vibration monitoring was conducted on one (1) occasion during August 2023. Noise monitoring was conducted on eighteen (18) occasions during August 2023. Each noise and vibration monitoring event that was undertaken confirmed works adhered to project requirements.

Ambient air quality monitoring was conducted at Roma Street, Albert Street, Woolloongabba, Boggo Road, Southern Portal and Northern Portal precinct sites during August 2023. Air quality monitoring confirmed works adhered to project requirements.

Water quality monitoring was conducted before the release of water from the site on twenty (20) occasions. Each monitoring event confirmed project requirements were adhered to. One (1) round of surface water quality monitoring was conducted; the monitoring event confirmed no impacts were generated by the Project.

2. CG Monthly Report – Compliance Assessment Against Imposed Conditions

Whilst not a requirement of Imposed Condition 6, CBGU offers the below Compliance Status Table as a good-will gesture to demonstrate the Project's ongoing environmental performance.

Table 1: Compliance Status – CG Imposed Conditions

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
1.	**General Conditions** – compliance with the Project Changes relevant to the Contractor's scope.	Yes	CBGU project works have been conducted in compliance with the Imposed Conditions.
2.	**Outline Environmental Management Plan** – timely submission to the Coordinator-General, including required sub-plans.	N/A	The OEMP is not an obligation of the CBGU Joint Venture.
3.	**Design** – the achievement of the Environmental Design Requirements.	Yes	Design and implementation proceeded in accordance with the Environmental Design Requirements.
4.	**Construction Environmental Management Plan** – all relating to Relevant Project Works.	Yes	All CBGU works were conducted in accordance with the Construction Environmental Management Plan (CEMP) (Rev 11).
5.	**Compliance and Incident Management** – Non-compliance events, notifications, and reporting.	Yes	Nil non-compliances occurred during the monitoring period (refer to Section 4).
6.	**Reporting** – Monthly and Annual reporting.	Yes	All reporting requirements are completed in accordance with Imposed Condition 6.
7.	**Environmental Monitor** – engaged and functions resumed.	Yes	An Environmental Monitor (EM) is appointed to the Project, and CBGU is committed to working collaboratively to aid the EM's functions under Imposed Condition 7.
8.	**Community Relations Monitor** – engaged and functions resumed.	Yes	A Community Relations Monitor (CRM) is appointed to the Project, and CBGU is committed to working collaboratively to aid the CRM's functions under Imposed Condition 8.
9.	**Community Engagement Plan** – developed and endorsed by Environmental Monitor.	Yes	A Community Engagement Plan (CEP) has been developed and implemented in accordance with Imposed Condition 9. The CEMP has been endorsed with the CEP.
10.	**Hours of Work** – works undertaken during approved hours.	Yes	CBGU project works have been conducted in accordance with the approved hours of work.

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
11.	**Noise** – Work must aim to achieve internal noise goals for human health and well-being.	Yes	CBGU project work has aimed to achieve internal noise goals for human health and well-being. Where internal noise levels have been unable to be measured, suitable noise reductions have been applied in accordance with Imposed Condition 11. Noise monitoring data is provided within Section 3.2.
	Vibration – Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	Yes	CBGU project work has aimed to achieve vibration goals for cosmetic damage, human comfort and sensitive buildings. Vibration monitoring data is provided within Section 3.1.
12.	**Property Damage** relating to ground movement	Yes	The management of potential impacts relating to property damage has been completed in accordance with Imposed Condition 12.
13.	**Air Quality** – Works must aim to achieve air quality goals for human health and nuisance.	Yes	CBGU project works have aimed to achieve air quality goals. Air quality monitoring data is provided within Section 3.3.
14.	**Traffic and Transport** – Works must minimise adverse impacts on road safety and traffic flow.	Yes	CBGU project works have been conducted in a manner that has minimised adverse impacts on road safety and traffic flow.
15.	**Water Quality** – Works must not discharge surface water and groundwater from the construction site above the relevant environmental values and water quality objectives.	Yes	CBGU has prepared and manages processes to ensure water quality is managed in accordance with Imposed Condition 15.
16.	**Water Resources** – evaluate potential impact, plan works, implement controls and monitor the inflow of groundwater associated with drawdown.	Yes	CBGU project works are managed in accordance with Imposed Condition 16.
17.	**Surface Water** – Must be designed 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 and constructed to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.	Yes	Design of the CBGU Project works considers the requirements of Imposed Condition 17.
18.	**Erosion and Sediment Control** – Provisions for erosion and sediment control must be 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.	Yes	CBGU has prepared and manages processes to ensure erosion & sediment control is managed in accordance with Imposed Condition 18.

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
19.	**Acid Sulfate Soils** managed as per the *Queensland Acid Sulfate Soil Technical Manual.*	Yes	CBGU has prepared and manages processes to ensure acid sulphate soils are managed in accordance with Imposed Condition 19.
20.	**Landscape and Open Space** – general requirement to minimise impacts on landscapes and open space values and specific requirements around Victoria Park	Yes	CBGU project works are designed and implemented in accordance with Condition 20.
21.	**Worksite Rehabilitation** – worksites rehabilitated as soon as practicable upon completion of works or commissioning, and in consultation with Brisbane City Council.	Yes	CBGU project works are designed and implemented in accordance with Condition 21.
22.	**Flood Water –** Temporary emission to allow the release of Flood Waters to high flow receiving waters.	Yes	CBGU project works have been conducted in accordance with the provisions available to manage floodwaters.

3. Environmental Monitoring Results

Monitoring data is provided below in accordance with Imposed Condition 6(b)(i).

3.1 Vibration

Vibration requirements (levels) are defined as goals within Imposed Condition 11. The goals are to be aimed for.

The Coordinator-General's Change Reports acknowledges instances that exist that these goals may not be achieved.

Vibration monitoring was conducted on one (1) occasion during August 2023. All vibration monitoring adhered to project requirements and is detailed in the table below.

Table 2: Vibration Monitoring Data

No.	Start Date	Time (AM/PM)	Finish Date	Location	Average Vibration level (mm/s)	Max Vibration Level (mm/s)	Vibration Goal (mm/s)	Receiver / Goal Type	Adhered to Project Requirements (Yes / No)
1.	25/08/2023	09:52:00 AM	30/08/2023	Stanley Street (Woolloongabba Precinct)	0.09	0.14	25	Residential	Yes

3.2 Noise

Noise requirements (levels) are defined as goals within Imposed Condition 11. The goals are to be aimed for.

The Coordinator-General Change Reports acknowledge instances where these goals may not be achieved.

Noise monitoring was conducted on eighteen (18) occasions during August 2023. All noise monitoring data adhered to Project requirements and is provided in the table below.

Table 3: Noise Monitoring Data

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External Monitoring [3]	Activity	Dominant Noise Source	Noise Goal LA10[1]	Noise level LA10	Noise Goal LAeq[2]	Noise level LAeq	Adhered to Project Requirements (Yes / No)
1.	17/08/2023	9:30:00 AM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete preparation works	Traffic	72	64.6	62	62.9	Yes
2.	18/08/2023	11:07:00 AM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	General construction activities	Traffic	72	72.6	62	70.9	Yes
3.	18/08/2023	11:32:00 AM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete preparation works	Traffic	72	68.7	62	67.7	Yes
4.	19/08/2023	9:59:00 AM	Albert Street (Albert Street Precinct)	Model Verification	Internal	Assembly of oversized plant	Construction	55	38.9	45	36.5	Yes
5.	19/08/2023	10:16:00 AM	Albert Street (Albert Street Precinct)	Model Verification	External	Assembly of oversized plant	Construction	72	68.4	62	65.8	Yes

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External [3] Monitoring	Activity	Dominant Noise Source	Noise Goal LA10[1]	Noise level LA10	Noise Goal LAeq[2]	Noise level LAeq	Adhered to Project Requirements (Yes / No)
6.	19/08/2023	10:40:00 AM	Albert Street (Albert Street Precinct)	Model Verification	Internal	Assembly of oversized plant	Construction	55	42.6	45	40.2	Yes
7.	28/08/2023	1:28:00 PM	Peter Doherty Street (Southern Portal Precinct)	Construction Monitoring at Sensitive Places	External	Vegetation management	Construction	67	65.4	62	62.8	Yes
8.	28/08/2023	9:37:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete works	Construction	67	62.8	57	60.2	Yes
9.	28/08/2023	10:02:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete works	Construction	42	49.4	35	47.2	Yes
10.	29/08/2023	9:49:00 PM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Utilities works	Traffic	62	66.9	52	64.6	Yes
11.	29/08/2023	10:11:00 PM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Utilities works	Traffic	54	67.7	47	66.7	Yes
12.	31/08/2023	10:37:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Earthworks	Traffic	72	72.2	62	69.6	Yes
13.	31/08/2023	11:00:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Utilities works	Traffic and construction	72	69	62	67	Yes

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External [3] Monitoring	Activity	Dominant Noise Source	Noise Goal LA10[1]	Noise level LA10	Noise Goal LAeq[2]	Noise level LAeq	Adhered to Project Requirements (Yes / No)
14.	31/08/2023	6:18:00 PM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Assembly of oversized plant	Construction	67	70.8	62	67.6	Yes
15.	31/08/2023	6:54:00 PM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Assembly of oversized plant	Construction	59	59.4	57	64.8	Yes
16.	31/08/2023	9:10:00 PM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Assembly of oversized plant	Construction	59	73.4	57	74	Yes
17.	31/08/2023	11:43:00 PM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Assembly of oversized plant	Construction	59	74	57	69.5	Yes
18.	31/08/2023	12:05:00 AM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Assembly of oversized plant	Construction	59	74.4	57	72.6	Yes

- *[1] Intermittent noise goal (LA10)*
- *[2] Continuous noise goal (LAeq)*
- *Note: In accordance with Imposed Condition 11, where internal noise levels were unable to be measured, external noise goals were developed by an acoustic specialist using the following standards: ISO 140-5:1998 Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements, Part 5: Field measurements of airborne sound insulation of façade elements and facades and ISO 354:1985 Acoustics – Measurement of sound absorption in a reverberation room.*

3.3 Air Quality

3.3.1 Deposited Dust Results

Air quality requirements (levels) are defined as goals within Imposed Condition 13. The goals are to be aimed for. The Coordinator-General Change Report acknowledges instances that exist that these goals may not be achieved. Dust deposition monitoring was performed in August 2023. The dust deposition gauges results for the reporting period are detailed below, and all monitoring data adhered to project requirements.

Table 4: Air Quality Monitoring – August Deposited Dust Data

Location	Project Wide Air Quality Goals[1]			Monitoring results ($mg/m^2/day$)	Comments
	Criterion	Air Quality Indicator	Goal ($mg/m^2/day$)		
Northern Portal	Nuisance	Deposited dust	120	34.48	*Air quality monitoring was performed during the reporting period. All results adhered to project requirements.*
Roma Street Precinct				13.79	
Albert Street Precinct (North)				25.81	
Albert Street Precinct (South)				6.45	
Woolloongabba Precinct (North)				22.58	
Woolloongabba Precinct (South)				38.71	
Boggo Road Precinct (North)				21.43	
Boggo Road Precinct (South)				21.43	
Southern Portal (South)				39.29	
Southern Portal (East)				39.29	

3.3.2 Ambient Air Quality Results

Total Suspended Particles (TSP) and particulate matter less than 10µm (PM10) monitoring were conducted during August 2023.

TSP and PM10 are monitored using portable air quality units and nearby Government air quality stations. Targeted monitoring of potential dust-generating activities is conducted by the mobile air quality units and was completed at Albert Street, Woolloongabba, Boggo Road and Northern Portal Precincts during August 2023. Three (3) Government air quality stations near the Construction Precincts are also utilised.

Table 5: Targeted Air Quality Monitoring – Total Suspended Particles and PM10 Data

Date	TSP Project Goal [1]	PM10 Project Goal	Woolloongabba		Albert		Boggo Road		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
	(µg/m³/24 hr)									
01-August-23	80	50	30.26	29.95	13.40	12.28	- [2]	- [2]	31.43	31.40
02-August-23	80	50	17.02	16.90	10.66	9.59	- [2]	- [2]	16.75	16.72
03-August-23	80	50	8.62	8.56	6.28	5.66	- [2]	- [2]	9.22	9.22
04-August-23	80	50	10.83	10.77	7.37	6.43	- [2]	- [2]	11.90	11.88
05-August-23	80	50	13.47	13.42	8.39	7.52	- [2]	- [2]	14.98	14.98
06-August-23	80	50	22.19	22.15	10.28	9.74	- [2]	- [2]	23.90	23.89
07-August-23	80	50	10.48	10.40	8.32	7.01	- [2]	- [2]	13.62	13.62
08-August-23	80	50	9.91	9.80	9.45	7.78	- [2]	- [2]	13.95	13.94
09-August-23	80	50	8.53	8.40	8.70	6.99	- [2]	- [2]	11.42	11.40
10-August-23	80	50	12.12	11.99	10.81	8.58	- [2]	- [2]	14.16	14.14
11-August-23	80	50	18.23	17.77	14.68	11.09	- [2]	- [2]	13.39	13.34
12-August-23	80	50	36.04	35.23	18.28	16.06	- [2]	- [2]	35.30	35.27
13-August-23	80	50	28.34	28.16	13.99	12.53	- [2]	- [2]	30.36	30.33
14-August-23	80	50	38.53	38.33	20.10	17.43	- [2]	- [2]	46.42	46.39
15-August-23	80	50	27.59	27.31	17.49	14.75	- [2]	- [2]	25.65	25.61
16-August-23	80	50	11.74	11.65	6.45	5.83	- [2]	- [2]	12.36	12.35
17-August-23	80	50	21.49	21.35	13.54	11.73	- [2]	- [2]	17.00	16.98
18-August-23	80	50	12.88	12.61	14.11	10.88	- [2]	- [2]	- [3]	- [3]

Date	TSP Project Goal [1]	PM10 Project Goal	Woolloongabba		Albert		Boggo Road		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
	(µg/m³/24 hr)									
19-August-23	80	50	4.19	3.97	7.05	5.17	- [2]	- [2]	- [3]	- [3]
20-August-23	80	50	10.94	10.79	7.14	6.22	- [2]	- [2]	- [3]	- [3]
21-August-23	80	50	19.09	18.93	16.47	13.51	- [2]	- [2]	- [3]	- [3]
22-August-23	80	50	14.12	13.97	14.87	11.86	- [2]	- [2]	18.50	18.47
23-August-23	80	50	11.56	11.39	16.06	12.21	- [2]	- [2]	11.70	11.69
24-August-23	80	50	16.45	16.18	23.01	17.84	- [2]	- [2]	12.39	12.38
25-August-23	80	50	14.17	14.06	16.18	13.39	- [2]	- [2]	16.76	16.73
26-August-23	80	50	16.32	15.92	12.82	10.71	- [2]	- [2]	17.07	17.06
27-August-23	80	50	11.80	11.72	6.97	6.47	- [2]	- [2]	14.63	14.61
28-August-23	80	50	11.95	11.83	13.18	10.48	- [2]	- [2]	13.65	13.63
29-August-23	80	50	11.77	11.60	14.37	11.37	- [2]	- [2]	13.36	13.34
30-August-23	80	50	14.07	13.92	13.55	11.07	- [2]	- [2]	13.74	13.73
31-August-23	80	50	11.39	11.26	12.72	10.04	- [2]	- [2]	10.80	10.78

- *[1] Project works must aim to achieve construction air quality goals. The Coordinator-General Change Report – Whole of Project Refinements 2019 acknowledges instances that exist that these goals may not be achieved.*
- *[2] The Boggo Road air quality unit experienced technical difficulties during the month of August. As soon as practicable, the unit was inspected, and the manufacture was contacted to assist with resolving the issue. The air quality unit was sent to the manufacture for repair. A nearby (Woolloongabba) DES Air Quality Station demonstrated compliant air quality during this outage period. These results are provided below. The Boggo Road worksite was closed from the 26th of July until the 21st of August 2023. Nil works occurred during this period.*
- *[3] The Northern Portal air quality unit experienced technical difficulties between the 18th - 21st of August. As soon as practicable, the unit was inspected, and the issue was resolved. A nearby (Brisbane CBD) DES Air Quality Station demonstrated compliant air quality during this outage period.*

CBGU also utilises three (3) Government air quality monitoring stations to monitor PM10 near the project sites. The results during this reporting period were as follows:

- Brisbane CBD: PM10 daily Maximum average: **34.4 µg/m3/24 hr** (https://apps.des.qld.gov.au/air-quality/chart/?station=cbd&parameter=18&date=1/08/2023&timeframe=month)
- South Brisbane: PM10 daily Maximum average: **37.6 µg/m3/24 hr** (https://apps.des.qld.gov.au/air-quality/chart/?station=sbr&parameter=18&date=1/08/2023&timeframe=month)
- Woolloongabba: PM10 daily Maximum average: **38.8 µg/m3/24 hr** (https://apps.des.qld.gov.au/air-quality/chart/?station=woo&parameter=18&date=1/08/2023&timeframe=month).

The graphical representation of the Government air quality data is presented in the below charts (refer to Figure 1-3).

Figure 1: Brisbane CBD – DES Station - PM10 graph for August 2023 (reproduction from the DES website).

Figure 2: South Brisbane – DES Station - PM10 graph for August 2023 (reproduction from the DES website).

Figure 3: Woolloongabba – DES Station - PM10 graph for August 2023 (reproduction from the DES website).

3.4 Water Quality – Discharge

CBGU undertook four (4) water quality monitoring events before the release (groundwater and surface water) from the site.

3.4.1 Groundwater Discharge

Water quality monitoring data is provided in the table below.

Table 6: Groundwater Discharge – Water Quality Monitoring Data

Location	Date	Testing of Water Quality Objectives [1]											Adhered to Project Requirements (Yes / No)
		pH	Suspended solids (mg/L)	Turbidity (NTU)	Ammonia N (µg/L) [3]	Oxidised N (µg/L) [3]	Organic N (µg/L) [3]	Total nitrogen (µg/L) [4]	Total phosphorus (µg/L)	Filterable Reactive phosphorus (µg/L) [3]	Chlorophyll a (µg/L)	Dissolved oxygen (%) [2]	
Roma Street	11/08/2023	7.64	<5	0.54	470	500	200	1200	40	<10	<1	97.66	Yes
Albert Street	17/08/2023	7.80	<5	0.50	200	340	300	800	10	<10	<1	107.72	Yes
Woolloongabba	21/08/2023	7.65	19	2.26	40	560	700	1300	30	<10	<1	87.79	Yes
Boggo Road	23/08/2023	7.87	<5	1.49	80	150	300	600	20	<10	15[5]	115.51	Yes

- [1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. Water quality objectives are defined as goals within the Brisbane River estuary environmental values and water quality objectives document.
- [2] All results adhere to Project requirements in that site practices are designed to aim to achieve the water quality objectives. The dissolved oxygen samples were acquired before discharge from the site. Pumping of the water will have inadvertently aerated the water, thus influencing the dissolved oxygen level.
- [3] All results adhere to Project requirements in that site practices aim to achieve the water quality objectives. These samples identified results generally consistent with pre-construction conditions, and no external influences were introduced by construction activity.
- [4] Total nitrogen levels adhered to project requirements in that site practices are designed to aim to achieve the water quality objectives. The results are mostly below that of the receiving environment. They are also considered abnormal compared to results from previous months, and are influenced by external factors (e.g., high rainfall events, overloaded sewage systems, fertilising natural areas, etc.) rather than related to construction activities.
- [5] Chlorophyll-a levels adhered to project requirements in that site practices are designed to aim to achieve the water quality objectives. Water quality objectives are not individual point source emission objectives, but the receiving water quality objectives. The Boggo Road median value for Chlorophyll-a is less than 3.00. The results are below that of the receiving environment. They are also considered abnormal compared to results from previous months and are influenced by external factors rather than related to construction activities.
- Note: Testing of EPP (Water) Quality Objectives are analysed at a NATA accredited laboratory each month (results provided above). Field testing (turbidity, pH) is done regularly during ongoing discharge.

3.4.2 Ponded/Surface Water Discharge

Discharged ponded/Surface water quality monitoring data is provided in the table below.

Table 7: Surface Water Discharge - Water Quality Monitoring Data

No.	Location	Date	Testing of Water Quality Objectives [1]		Adhered to Project Requirements (Yes / No)
			pH	Turbidity (NTU)	
1.	Northern Portal	27/07/2023	8.39	5.49	Yes
2.	Northern Portal	31/07/2023	8.40	7.39	Yes
3.	Northern Portal	1/08/2023	8.35	8.10	Yes
4.	Northern Portal	3/08/2023	8.30	4.18	Yes
5.	Northern Portal	4/08/2023	8.32	0.94	Yes
6.	Northern Portal	7/08/2023	8.31	5.23	Yes
7.	Northern Portal	8/08/2023	8.28	4.60	Yes
8.	Northern Portal	9/08/2023	8.32	6.20	Yes
9.	Northern Portal	10/08/2023	8.27	4.18	Yes
10.	Northern Portal	11/08/2023	8.28	2.20	Yes
11.	Northern Portal	14/08/2023	8.31	4.28	Yes
12.	Northern Portal	15/08/2023	8.31	6.27	Yes
13.	Northern Portal	17/08/2023	8.13	0.98	Yes
14.	Northern Portal	18/08/2023	8.23	2.94	Yes
15.	Northern Portal	21/08/2023	8.20	0.24	Yes

16.	Northern Portal	22/08/2023	8.25	0.80	Yes
17.	Northern Portal	23/08/2023	7.97	2.01	Yes
18.	Northern Portal	24/08/2023	7.95	5.56	Yes
19.	Northern Portal	25/08/2023	7.97	1.28	Yes
20.	Northern Portal	26/08/2023	7.84	4.30	Yes

- [1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. All discharges were compliant with *Guidelines for Best Practice Erosion and Sediment Control (IECA, 2008) and* the *Department of Transport and Main Roads' Technical Standard MRTS 52 – Erosion and Sediment Control.*

3.5 Water Quality – Surface Water

During August 2023, CBGU JV undertook one (1) round of surface water sampling at five (5) site locations (upstream and downstream).

Results from the below-monitoring locations reflect the condition of the broader catchment (not just the influence of the Project). Water quality generally appears good, and water discharge from the Project would not have had an impact on the catchment, considering the results also provided within section 3.4 above.

Table 8: Offsite Upstream & Downstream Water Quality Data

Location	Upstream / Downstream	Date	Purpose of Monitoring	Turbidity (NTU)	EC (µS/cm)	Dissolved oxygen (%)	pH
Northern Portal	Upstream	11/08/2023	Monthly	12.38	665	84.63	7.11
Northern Portal	Downstream	11/08/2023	Monthly	4.41	664	43.62	7.05
Roma Street	Upstream	11/08/2023	Monthly	9.16	34700	90.12	7.04
Roma Street	Downstream	11/08/2023	Monthly	9.05	35300	88.54	7.02
Albert Street	Upstream	11/08/2023	Monthly	10.77	46500	100.46	8.11
Albert Street	Downstream	11/08/2023	Monthly	12.74	39000	100.46	8.11
Woolloongabba	Upstream	21/08/2023	Monthly	23.30	41300	96.68	7.72
Woolloongabba	Downstream	21/08/2023	Monthly	20.30	34400	95.22	7.6
Boggo Road [1]	Downstream	21/08/2023	Monthly	15.38	22800	74.20	7.14

[1] Monitoring at the Boggo Rd site occurs at a culvert outlet at the beginning of the surface catchment. There is no upstream/downstream monitoring point as such. The culvert outlet receives water released from the site, as well as a broader stormwater catchment.

4 Non-Compliances

Details of non-compliances are provided in accordance with Imposed Condition 6(b)(ii).

A Non-Compliance Event is defined as Project works that do not comply with the Imposed Conditions. Nil non-compliances occurred during the monitoring period.

Table 9: Non-Compliance Events this Month

Event Title	Location, Date, and time of the event	Date the Event was Formally Notified to CG/IEM	Conditions Affected	Date the Event Report Formally Sent to CG/IEM	Status of Event
Nil					

5 Complaints

Reporting of complaints is provided below in accordance with Imposed Condition 6(b)(iii).

During August 2023, one (1) complaints relating to the Project were received, as detailed in

Table 10 below.

Table 10: Summary of Complaints

No.	Date	Location	Description of Issue	Responses	Status of Event
1.	15/08/2023	Albert Street (Albert Street Precinct)	Light	A stakeholder contacted the Project regarding light from the Albert Street Worksite. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and light requirements on site for safety and security. CBGU reviewed the circumstances and confirmed works adhered to the Project's requirements, and the works undertaken were consistent with the community notification.	Closed