

The background of the entire page is a dark blue map. It features a complex network of thin white lines representing a street grid or property boundaries. A prominent, winding white line represents a river or waterway, flowing from the top center towards the bottom right. The map is semi-transparent, allowing the text to be clearly visible over it.

# Cross River Rail Project

## Monthly Environmental Report

January 2023

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# Executive Summary

This Monthly Environmental Report (MER) has been produced for Project Works undertaken on site for January 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 CBUG 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.	<b>General conditions</b> – 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.	<b>Outline Environmental Management Plan</b> – timely submission to the Coordinator-General including required sub-plans	Yes	OEMP dated June 2020 is effective for the reporting period.
3.	<b>Design</b> – achievement of the Environmental Design Requirements	NA	Ongoing progress with design packages.
4.	<b>Construction Environmental Management Plan</b> – 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.	<b>Compliance and Incident management</b> – Non-compliance events, notifications and reporting.	Yes	No Non-Compliance Events (NCEs) occurred in January 2023.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
6.	<b>Reporting</b> – Monthly and Annual reporting.	Yes	This MER, including RIS and TSD Monthly Reports, has been submitted in accordance with the conditioned requirements.  Refer to <b>Appendix A</b> and <b>Appendix B</b> .
7.	<b>Environmental Monitor (EM)</b> – engaged and functions resumed.	Yes	Ongoing weekly site inspections and document reviews continue to take place.
8.	<b>Community Relations Monitor (CRM)</b> – engaged and functions resumed	Yes	Ongoing.
9.	<b>Community Engagement Plan</b> – developed and endorsed by Environmental Monitor.	Yes	CEMPs endorsed with Community Engagement Plan.
10.	<b>Hours of work</b> – 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.	<b>Noise</b> – 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 not triggered in January 2023, however, noise monitoring for the high intensity activities that carried over into early January 2023 had already occurred in December 2022.  TSD – Noise monitoring was undertaken to validate predicted noise modelling. Noise monitoring confirmed project requirements were met. Refer to <b>Appendix B</b> (Table 3 and Section 3.2).
	<b>Vibration</b> – 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 occurred at RNA and Yeronga Station. The results met the requirements of the endorsed CEMP. Refer to <b>Appendix A</b> (Table 5 and Section 3.1.3).  TSD – Vibration monitoring occurred at Woolloongabba. The results met the requirements of the endorsed CEMP. Refer to <b>Appendix B</b> (Table 2 and Section 3.1).



Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
12.	<b>Property damage</b> – relating to ground movement.	Yes	<p>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.</p> <p>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 January 2023.</p>
13.	<b>Air quality</b> – Works must aim to achieve air quality goals for human health and nuisance.	Yes	<p>Air quality monitoring met Project air quality project requirements.</p> <p>RIS – Contractor confirmed they continued to meet the requirements under Condition 13 and the OEMP. Refer to <b>Appendix A</b> (Tables 7, 8 and 9 and Section 3.2, plus Figures 1, 2 and 3).</p> <p>TSD – Refer to <b>Appendix B</b> (Tables 4.2 and 5 plus Section 3.3).</p>
14.	<b>Traffic and transport</b> – 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.	<p><b>Water quality</b> – Works must not discharge groundwater from the construction site above the relevant environmental values and water quality objectives.</p> <p>Monitor and report on water quality in accordance with CEMP and Sub-plans.</p>	Yes	<p>Monitoring and reporting on groundwater and surface water quality was undertaken in accordance with RIS and TSD Water Quality Management Plans.</p> <p>RIS – No groundwater discharges occurred during December.</p> <p>Post-rainfall monitoring occurred at Moolabin Creek and Rocky Water Holes Creek. See <b>Appendix A</b> (Section 3.3.2 and Tables 10) for further details.</p> <p>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.</p> <p>Surface water discharges occurred at the Northern Portal worksite on 23 occasions and one occasion at the Southern Portal. The monitoring results demonstrated the</p>

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
			<p>surface water discharges met project water quality discharge criteria.</p> <p>Post-rainfall / routine monitoring occurred in receiving waters of the Northern Portal, Roma Street, Albert Street, Woolloongabba and Boggo Road sites due to a rainfall event. See <b>Appendix B</b> (Section 3.5 and Table 8) for further details.</p> <p>Refer to <b>Appendix B</b> (Table 6) for ground water monitoring results.</p> <p>Refer to <b>Appendix B</b> (Tables 7 and 8) for surface water monitoring results.</p>
16.	<b>Water resources</b> – Evaluate potential impact, plan works, implement controls and monitor inflow of groundwater associated with drawdown.	Yes	<p>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.</p> <p>TSD – Inflow of groundwater into the worksites is being continuously monitored to validate the predictive modelling.</p>
17.	<b>Surface water</b> – 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.	<b>Erosion and sediment control</b> – 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.	<b>Acid sulfate soils</b> – 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.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
20.	<b>Landscape and open space</b> – 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 June 2021. Consideration has been taken to minimise loss of trees and the area of park impacted during these temporary works.
21.	<b>Worksite rehabilitation</b> – worksites rehabilitated as soon as practicable upon completion of works or commissioning, and in consultation with Brisbane City Council.	NA	N/A

## Non-Compliance Events

There were no NCEs raised in January 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	<i>State Development and Public Works Organisation Act 1971</i>
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.

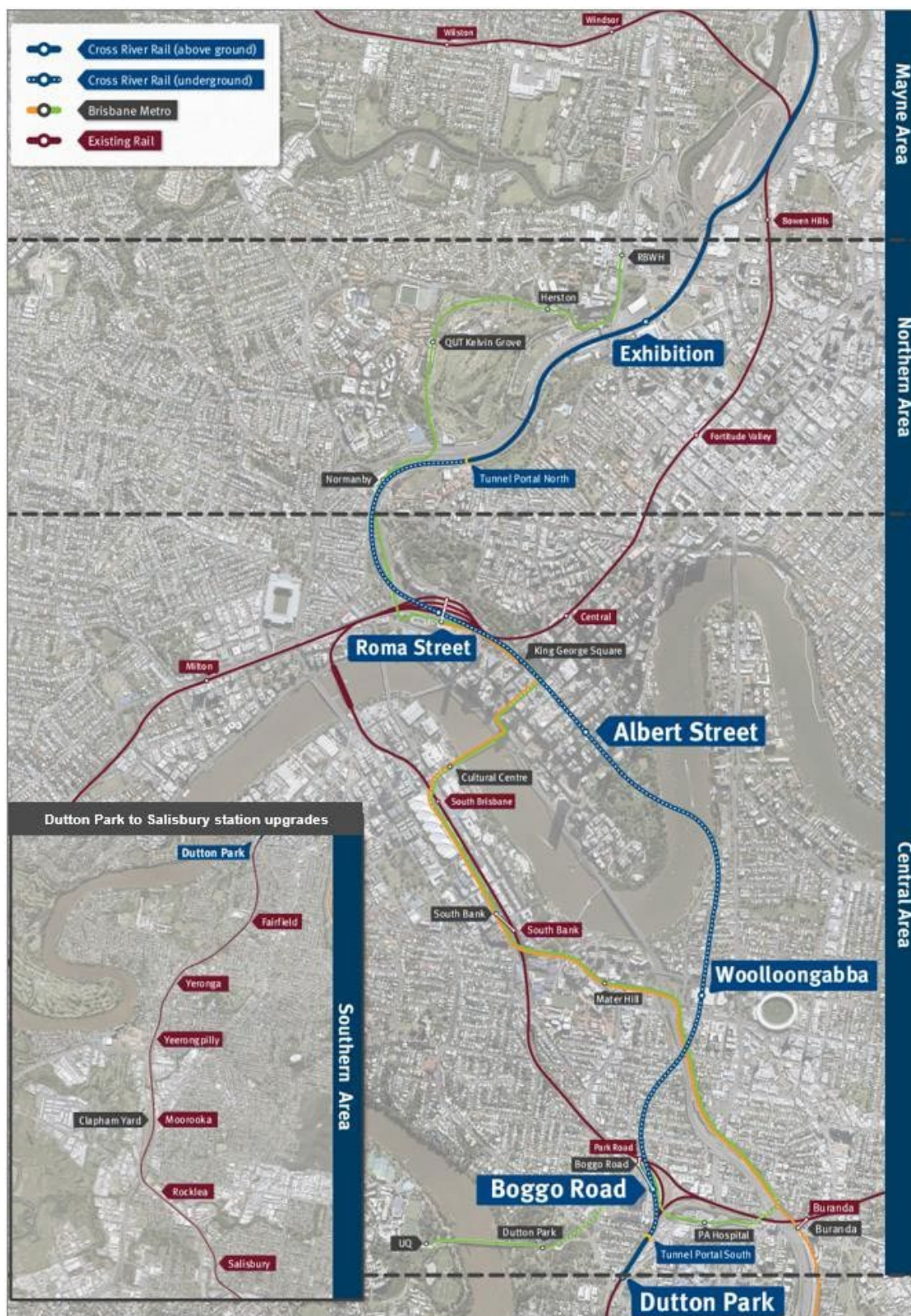
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

- 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 are shown in the figure over.



### 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 NCE's, 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, will be 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 January 2023:

Area	Project Works
Mayne Area	<b>Mayne Yard North –</b> <ul style="list-style-type: none"><li>• BR08 (Breakfast Creek Bridge) temporary support works for Pier 3 and 4 completed, piling of Pier 3 scheduled for 20th Feb and centre span girder lifts scheduled for 29th Mar 2023; and</li><li>• Civil scope for Shunt Road and vehicle access road continuing.</li></ul> <b>Mayne Yard East / West –</b> <ul style="list-style-type: none"><li>• Mayne Yard East entry roads and DLP area in Unity control since 30th Jan 2023;</li><li>• BR11/13 (vehicle access tripod bridge over future CRR lines) commenced road barrier installation;</li><li>• BR12 (pedestrian bridge from Bowen Hills Station to MY-West) piling commenced, truss structure on-site and fit-out commenced for the lift on 3rd Mar 2023; and</li><li>• Sewer underbore at Campbell St nearing completion.</li></ul>
Northern Area	<b>RNA/ Northern Corridor –</b> <ul style="list-style-type: none"><li>• Ekka Station precinct lighting along Shared Path (western side) approx. 50% complete;</li><li>• Rock bolting for Museum Link complete;</li><li>• Drainage (Eastern side) recommenced;</li><li>• Local connections ongoing for RIS-N-9C switch into Stage 2;</li><li>• Open Channels and Subsoils continuing;</li><li>• Rock pitching in front of Vic Park Feeder Station commenced; and</li><li>• Preparation scope for Stage 2 switch.</li></ul> <b>Northern Portal –</b> <ul style="list-style-type: none"><li>• Finalising Stage two slab pours at the top of the dive structure;</li><li>• Back filling on top of the portal roof;</li><li>• Site demobilisation and removal of temporary support; and</li><li>• Watermain installation.</li></ul>
Central Area	<b>Roma Street –</b>

## Southern Area

- Station cavern – BoH slab and wall pours and installation of mezzanine beam segments ongoing;
- Station Building – Continued FRP works for perimeter and internal walls (B1-L0); continuing B1 & L0 suspended slabs pours (BOH & FOH). B2 to L0 BoH and FoH wall FRP works in progress, and slabs for B1 BoH and L0 FoH in progress; and
- Services building – Completed installation of precast walls (L1), and handover of Energex room.

### Albert Street –

- Lot 1 – B9 slipform works at slip 6 and 7 up to RL -22.93 and B9 Jump Form System FRP works ongoing, continuing back-propping reconfiguration on B10;
- Lot 2 – 20 of 21 cavern arch pours complete, Mezzanine team mobilised to northern cavern; and commenced mezzanine beam installation, continuing AA2 & AA6 FRP works in AS1 shaft; continuing BOH (North) B5 walls;
- Lot 3 – Continuing perimeter wall FRP works from B1 to B1 upper; continuing steel fixing for internal lift core jump form pours to L0; continuing steel fixing for two internal walls (B4-B1 upper).

### Woolloongabba –

- SW5 and SW3 External wall pours continue to progress;
- Mechanical and electrical services ongoing on B9, B8, B7, B6, B4 & B3;
- Ceiling and partitions in progress on B9, B7, B4, B3, B2 and B1;
- Mechanical and electrical services continued in north and South Cavern BOH
- Station platform culverts installation;
- Goods lift being commissioned by Kone; and
- Platform culvert topping slab poured in North and South Caverns.

### Tunnel fitout –

- Drill rig completed work in MC02 Roma St to Northern Portal (R2NP) and now in MC01;
- MAP walkway ongoing in MC02 R2NP;
- B2G final clean up and adjustment works ongoing in MC01 and MC02; and
- Bracket installation has commenced in MC02 R2NP.

### Boggo Road –

- Concrete to in-situ structure at 64% complete;
- Reinforcement to in-situ structure 72% complete;
- FRP of southern BoH continuing, with B4 suspended slabs complete; and
- Precast Vierendeel installation ongoing.

### Southern Portal –

- Internal tunnel wall and slab works ongoing;
- Firewall FRP and liner wall shotcreting works ongoing;
- Ongoing FRP works to western and Eastern abutment;
- Boggo Road Bridge girders and pylon unloaded at the Port of Brisbane; and
- Continued sewer property connections in Railway Terrace. Bypass pumping ongoing.

### Dutton Park –

- CSR Scope including UTX's during possession windows;
- Cope St Noise barrier work continuation;
- Continuation of piling works for Cope Street retaining walls and noise walls;
- Implementation of long-term traffic controls (roadside barriers, signage) on Annerley Rd; and
- Preparation of piling pads on Kent St, ready for piling works in Feb-23.

### Fairfield Station –

- Station re-opened to the public on 9 January;
- Continue with station building fit-out works;
- Structural concrete slabs for station entry areas, stair 1 suspended slab;
- Mildmay St gravity wall Stage 2 continuation; and



- Lift 2 glazing progressed, in readiness for lift commencement mid-Feb.

#### **Yeronga Station –**

- Final lift completion works on Lift 1 & Lift 3 in readiness for opening early Feb;
- Final fit-out of the station buildings in readiness for a full opening during Feb;
- Testing & commissioning of permanent power and downstream sub-boards; lighting, lifts, and mechanical items; and
- Testing & commissioning of ROS systems back to the QR network.

#### **Clapham Yard –**

- BR93 (Moolabin Creek Track Bridge) relieving slab FRP commenced;
- BR94 (Chale Street Bridge) FRP scope and RSS wall RW640 completed for Southern side including girder installation Southern Span 2, Deck pours being prepared; and
- CSR scope continues.

#### **Rocklea Station –**

- Continued inground services throughout platform areas – Platform 1 & platform 2/3;
- Continued FRP work for structural foundations for the overpass, lift pits and stair foundations;
- Completion of buildings and facilities for the Rocklea office compound setup; and
- Excavation and FRP for DG retaining wall.

## **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 determine compliance with the project's noise requirements and to calibrate modelled predictions the project applies recommended façade attenuation corrections, which consider receiver property type.

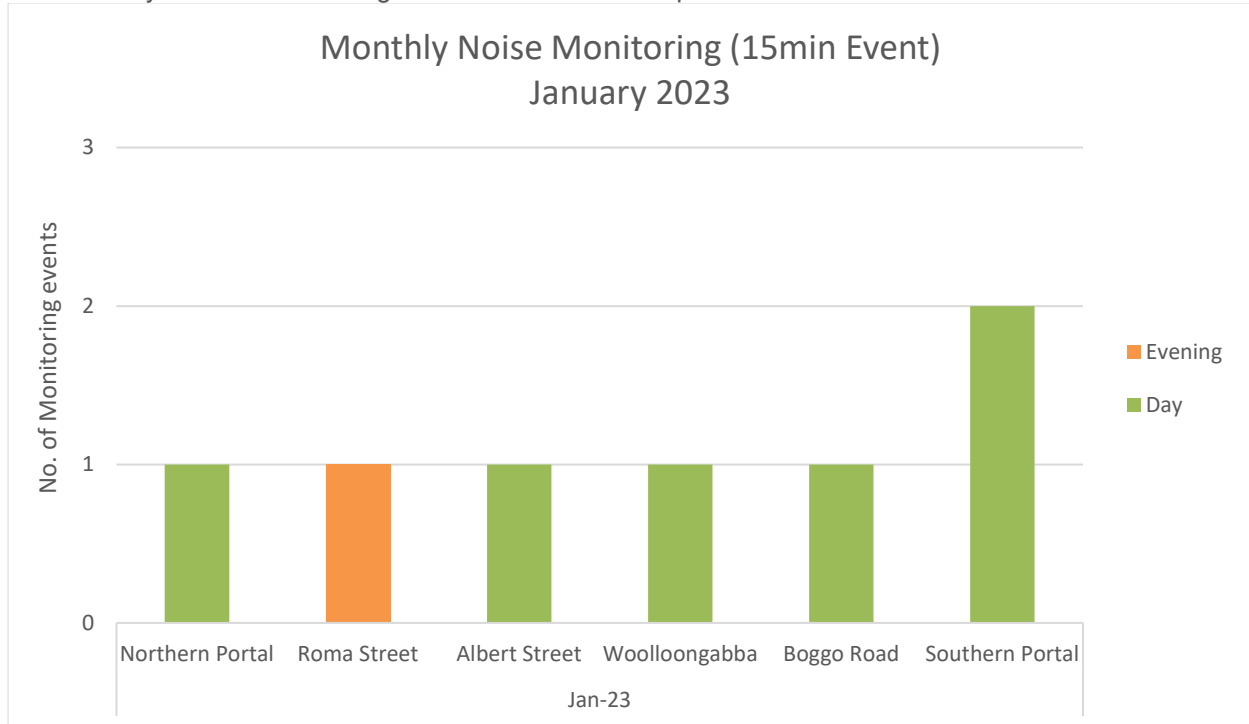
In the Northern Area, noise monitoring was undertaken to validate predictive modelling at sensitive places along Gregory Terrace near the Northern Portal Worksite where railway works were occurring. The TSD contractors reported that the projected noise requirements have been met. Monitoring results for the Central Area are detailed in **Appendix B** (Table 3).

In the Central Area, noise monitoring was undertaken to validate predictive modelling at sensitive places close to the Woolloongabba, Albert Street, Roma Street, Boggo Road and Southern Portal worksites. 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 not triggered for the month, however, noise monitoring for the Christmas/New Year SCAS activities that carried over into January, had already occurred in December 2022. The RIS contractors reported last month (December 2022) that the projected noise requirements had been met.

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 was undertaken at the foundation of the State heritage Royal International Convention Centre during rock breaking works at the RNA Showgrounds. No rock breaking or other vibration activities were undertaken during the reporting period resulting in no vibration data recorded as detailed in **Appendix A** (Table 5).

In the Central Area, vibration monitoring was undertaken during excavation works along Stanley Street near the Woolloongabba Station worksite. The TSD contractors reported that the vibration requirements have been met and the monitoring results for are detailed in **Appendix B** (Table 2).

In the Southern Area, vibration monitoring was undertaken during asphaltting works at the Yeronga Commuter Carpark on Fairfield Road. The construction team initially advised that an 8T vibratory roller was required to complete the works, however the asphaltting was able to be completed using the whacker packer instead. The RIS contractors reported that the vibration requirements have been met and the monitoring results for are detailed in **Appendix A** (Table 5).

### 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<sup>1</sup> for all active worksites.

At the Clapham Yard worksite, the dust deposition gauge is located on private property and was inaccessible due to the Christmas holiday period. It was left for an extended period of 36 days. The results are not considered a representative sample according to the Australian Standard, however, as



per the advice of the Project Certified Air Quality Professional (CAQP), the sample can still be recorded as indicative because the gauge did not record an exceedance. It is highly unlikely that an exceedance would have occurred during the monitoring period. Dust deposition results are detailed in **Appendix A** (Table 7 and Figure 1) and **Appendix B** (Table 4.2).

A summary of dust deposition monitoring is provided 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 are indicative and did not exceed the air quality goal

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

### 2.2.3.2. Particulate Matter and Total Suspended Particulates

Monitoring for particulate matter (PM<sub>10</sub>) and total suspended particulates (TSP) was conducted at Northern and Central Area worksites. Results met the project goals at all active worksites.

In the Central Area, an air quality monitor unit located at Boggo Road, experienced technical difficulties on several occasions during the reporting period. As soon as practicable, the unit was inspected and the problem was resolved. A review of a nearby DES Air Quality Station (Woolloongabba) demonstrated compliant PM<sub>10</sub> levels during the outage periods on 9-10, 15-17, 23, 28-29 December 2022.

In the Southern Area, investigations continued by the equipment supplier in relation to the ongoing data loss at Clapham Yard between December 2022 and January 2023. To reduce the future data loss, the rental unit at Mayne Yard East was relocated to Clapham Yard on the 30th of January 2023. As a result of the relocation, both locations did not record sufficient data across the 24-hour period. The installation process consisted of installing larger batteries to reduce the likelihood of data loss however this caused the fuses to blow. Data was not recorded on the 31 January 2023. This was rectified the following day by Unity by replacing the larger batteries with smaller factory issued batteries.

In the absence of particulates data at Clapham Yard, Unity undertook an investigation to provide supplementary information to confirm the RIS scope of works met the project outcomes set out by the CGCR and the OEMP. Particulates results are detailed in Appendix A (Section 3.2.2 and Figures 2 and 3) and Appendix B (Table 5).

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

Air Quality – PM <sub>10</sub> / 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	- Results met air quality goals - DMP relocated on 30 Jan 2023
Northern Area	RNA / Exhibition	RNA showgrounds	- Results met air quality goals
	Northern Portal	Brisbane Girls Grammar School	- Results met air quality goals
Central Area	Albert St	iStay River City and Capri (Corner of Mary Street and Albert Street)	- Results met air quality goals
	Boggo Rd / Southern Portal	North-east of Boggo Road worksite	- Results met air quality goals
	Woolloongabba	Place Park, Woolloongabba	- Results met air quality goals
Southern Area	Clapham Yard	Clapham Yard	- No data was recorded for this period, however, the Maye Yard East monitor was relocated to Clapham Yard on 30 Jan 23.

### 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 January, active surface water discharges occurred in the Northern and Central Areas. Post-rainfall water quality monitoring occurred in the receiving waters of the in the Northern, Central and Southern Areas.

In the Northern Area, water quality monitoring was triggered on 23 occasions from the Northern Portal worksite as water used for construction activities and stormwater was treated and actively discharged to the stormwater network. The TSD contractors confirmed the discharge criteria was met on all occasions. See **Appendix B** (Table 7) for further details.

In the Southern Area, water quality monitoring was triggered at the Southern Portal worksite on one occasion as stormwater was treated and actively discharged to the stormwater network. The TSD contractors confirmed the discharge criteria was met on all occasions. See **Appendix B** (Table 7) for further details.

Post-rainfall monitoring was triggered in receiving waters of the Northern Portal, Roma Street, Albert Street, Woolloongabba, Boggo Road, Clapham Yard and Rocklea worksites due to a rainfall event that exceeded the trigger to monitor. Downstream locations that exhibited an increase of more than 5mg/L or 10% Total Suspended Solids (TSS) (whichever is greatest) were still below the off-site discharge limit for the relevant receiving waters. The findings of further investigations concluded that the storm event size was above the design criteria for the controls required. The site Erosion and Sediment Control measures were appropriately implemented and there is no evidence to suggest the increase in TSS was project related. Therefore, compliance with Imposed Conditions 15 and 18 were met. See **Appendix A** (Section 3.3.2.1, Table 10 and 11) and **Appendix B** (Table 8) for further details.

Routine surface water quality monitoring was undertaken in the receiving waters of all TSD worksites in accordance with the Contractor's Water Quality Management Plan. The monitoring results reflect the condition of a broader catchment upstream from the worksites. See **Appendix B** (Table 8) 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	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
Northern Area	Exhibition/RNA	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Northern Portal	Yes	Yes	Yes	- Post-rainfall monitoring undertaken. - Routine in-stream monitoring undertaken in accordance with WQMP. - Active surface water discharge met water quality investigation criteria.
	Northern Corridor	No	No	N/A	- ESC was implemented in accordance with site specific ESC Plan.

<b>Central Area</b>	Albert Street	No	Yes	Yes	<ul style="list-style-type: none"> <li>- Post-rainfall monitoring undertaken.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
	Boggo Road	No	Yes	Yes	<ul style="list-style-type: none"> <li>- Post-rainfall monitoring undertaken.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
	Roma Street	No	Yes	Yes	<ul style="list-style-type: none"> <li>- Post-rainfall monitoring undertaken.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
	Woolloongabba	No	Yes	Yes	<ul style="list-style-type: none"> <li>- Post-rainfall monitoring undertaken.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
	Southern Portal	Yes	Yes	Yes	<ul style="list-style-type: none"> <li>- Active surface water discharge met water quality investigation criteria.</li> <li>- Post-rainfall monitoring undertaken.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
<b>Southern Area</b>	Fairfield Station	No	No	No	<ul style="list-style-type: none"> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>
	Clapham Yard	No	Yes	No	<ul style="list-style-type: none"> <li>- Post-rainfall monitoring undertaken.</li> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>
	Rocklea Station	No	Yes	No	<ul style="list-style-type: none"> <li>- Post-rainfall monitoring undertaken.</li> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>

### 2.2.4.2. Groundwater

In the Central Area, groundwater quality monitoring was triggered at Roma Street, Albert Street, Woolloongabba, and Boggo Road. The groundwater discharge results exceeded relevant water quality objectives (WQO's)<sup>2</sup> for Total nitrogen, Ammonia nitrogen, Oxidised nitrogen, Total phosphorus and dissolved Oxygen. However, these results are consistent with the receiving environment baseline monitoring pre-construction data. The Contractor confirmed no changes have occurred on site to the construction methodologies that would have affected the groundwater results.

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.

<sup>2</sup> 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, Northern Portal, RNA Showgrounds, Roma Street, Albert Street, Woolloongabba, Boggo Road, Southern Portal, Dutton Park, Fairfield, Yeronga, Clapham Yard and Rocklea worksites.

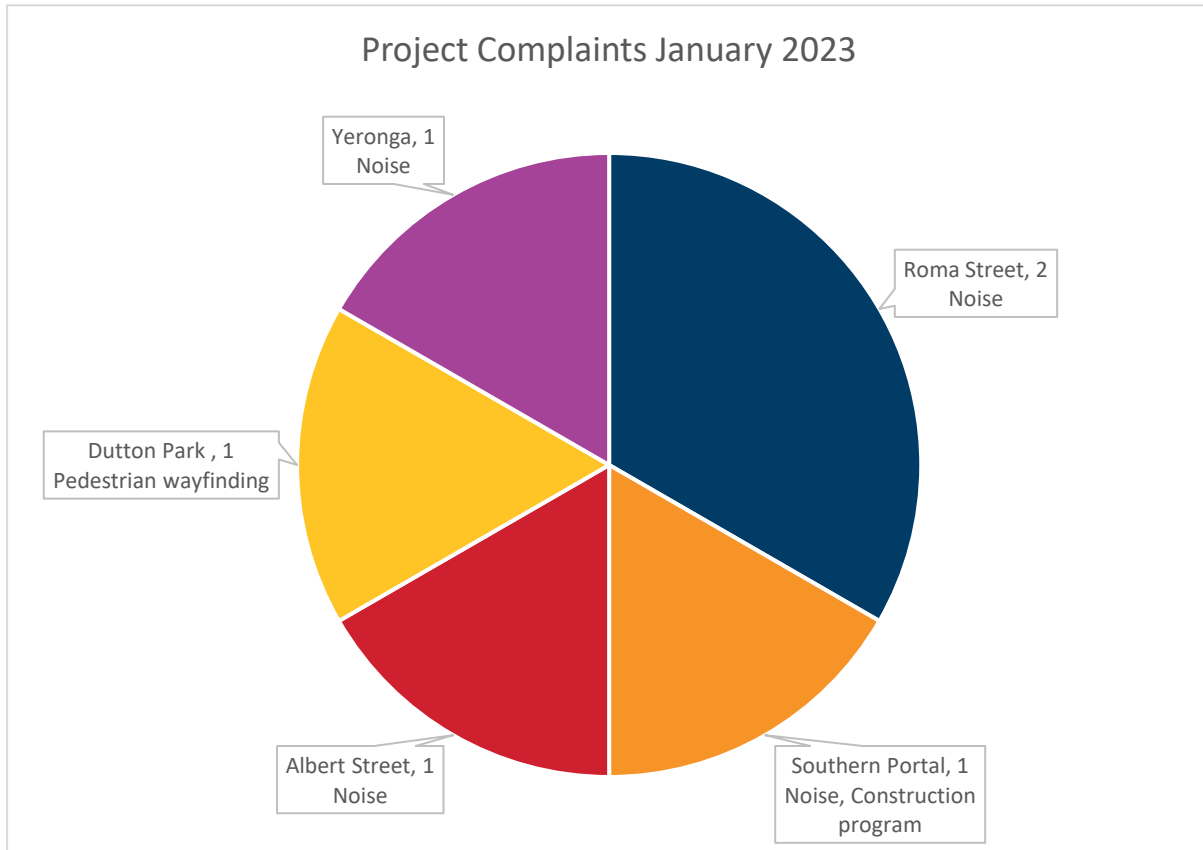
## 2.3. Complaints Management

A total of six complaints were received during the month all of which were project related.

RIS works received two complaints during January related to noise at Yeronga and pedestrian wayfinding at Dutton Park. For further details and breakdown of complaints, refer to **Appendix A** (Table 3) and Figure below.

The TSD works received four complaints related to noise at Albert Street, Roma Street and at Railway Terrace (Southern Portal). For further details refer to **Appendix B** (Table 10).

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



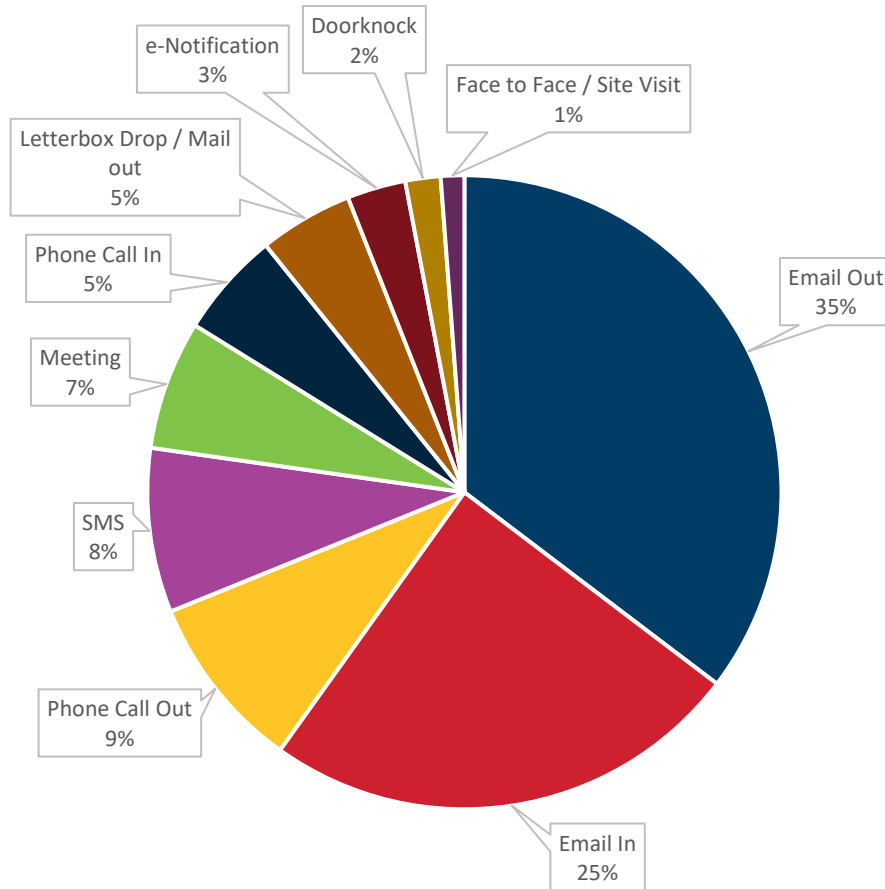
Where attended noise monitoring was undertaken in response to a complaint, the contractor confirmed on all occasions that works undertaken at the time of the complaint adhered to project requirements. In some instances, previous attended noise monitoring data, representative of the relevant construction 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 summarised in the chart below.



## Stakeholder Engagement January 2023



## 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	<b>Mayne Yard North –</b> <ul style="list-style-type: none"> <li>Civil scope for Shunt Road and vehicle access road continuing; and</li> <li>BR08 piling scheduled for 20th Feb.</li> </ul> <b>Mayne Yard East / West –</b> <ul style="list-style-type: none"> <li>Commence soil nailed wall RW115; and</li> <li>Sewer Underbore at Campbell St to be completed.</li> </ul>
Northern Area	<b>RNA/ Northern Corridor –</b> <ul style="list-style-type: none"> <li>EXH_018 rail switch commencing;</li> <li>Rock excavation south-eastern area of Exhibition station (not impacted by EXH Stage 2 switch);</li> <li>Drainage (eastern side) ongoing; and</li> <li>Service relocations East (between Bowen Bridge Road and Exhibition station).</li> </ul> <b>Northern Portal –</b> <ul style="list-style-type: none"> <li>Defect repairs;</li> <li>QR pedestrian bridge works; and</li> <li>Remaining backfill works.</li> </ul>

Central Area	<b>Roma Street –</b> <ul style="list-style-type: none"> <li>• Ongoing mezzanine beam installation;</li> <li>• Station building ongoing wall and slab and column pours;</li> <li>• Blockwork in RA6;</li> <li>• Services building pre-cast panel installation and concrete pours; and</li> <li>• Infill around INB underpinning columns and demolition of redundant columns.</li> </ul>
	<b>Albert Street –</b> <ul style="list-style-type: none"> <li>• Lot 1 – Ongoing slip form pours (B7-B4), upcoming slip cycle 7 pours;</li> <li>• Lot 2 – Complete BoH (South) FRP works and complete final arch pour; and</li> <li>• Lot 3 – ongoing internal and wall and lift core FRP works.</li> </ul>
	<b>Woolloongabba –</b> <ul style="list-style-type: none"> <li>• Commence the first pour of the platform topping slab in the northern cavern;</li> <li>• Commence Super T's casting at Enco Yard;</li> <li>• Monorails installation to commence installation in Northern cavern; and</li> <li>• Underbore sewer works.</li> </ul>
	<b>Boggo Road –</b> <ul style="list-style-type: none"> <li>• Concrete wall steel fixing and concrete pours ongoing;</li> <li>• Installation of pre-cast culvert commencing in February; and</li> <li>• Delivery and installation of precast mezzanine beams and super-T ongoing.</li> </ul>
	<b>Southern Portal –</b> <ul style="list-style-type: none"> <li>• Ongoing base slab and liner wall FRP works; and</li> <li>• Completion of sewer tie in works at Dutton Street.</li> </ul>
	<b>Dutton Park –</b> <ul style="list-style-type: none"> <li>• Continue piling – Cope St retaining walls;</li> <li>• Embankment widening in preparation for UP Sub realignment in Q2 2023; and</li> <li>• Noise wall installation due end of Feb (Cope St).</li> </ul>
	<b>Fairfield Station –</b> <ul style="list-style-type: none"> <li>• Ongoing station upgrades.</li> </ul>
	<b>Yeronga Station –</b> <ul style="list-style-type: none"> <li>• All lifts to be opened to public; and</li> <li>• Ongoing accelerated completion of all remaining scope (excluding items due to supply chain challenges).</li> </ul>
	<b>Clapham Yard –</b> <ul style="list-style-type: none"> <li>• OHLE Foundations &amp; Structures continue;</li> <li>• Stage 1 BR93 (Moolabin Ck track bridge) ongoing; and</li> <li>• CSR works ongoing.</li> </ul>
	<b>Rocklea Station –</b> <ul style="list-style-type: none"> <li>• Continue inground services throughout platform areas;</li> <li>• Continue FRP work for structural foundations; and</li> <li>• Continue OHLE foundations and structures.</li> </ul>
Southern Area	

## 2.5 Non-Compliance Events

No new NCEs were raised this month. 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-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-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-009-RIS-003	6/05/22	ESC	Clapham Yard	4, 15, 18	28/10/22	28/10/22	12/12/22	12/12/22
CRRDA-010-RIS-004	10/05/22	Potential Acid Sulphate Soils Management	Clapham Yard	4, 19	28/10/22	28/10/22	12/12/22	12/12/22
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	

# Appendix A RIS Monthly Report

# Monthly CGCR Report January 2023

Cross River Rail – Rail, Integration and Systems  
Alliance

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# 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	<b>Mayne Yard North</b> <ul style="list-style-type: none"> <li>BR08 (Breakfast Creek Bridge) temporary support works for Pier 3 and 4 completed, piling of Pier 3 scheduled for 20th Feb and centre span girder lifts scheduled for 29th Mar '23,</li> <li>Civil scope for Shunt Road and vehicle access road continuing.</li> </ul> <b>Mayne Yard East / West</b> <ul style="list-style-type: none"> <li>Mayne Yard East entry roads and DLP area in UNITY control since 30th Jan '23.</li> <li>BR11/13 (vehicle access tripod bridge over future CRR lines) commenced road barrier installation.</li> <li>BR12 (pedestrian bridge from Bowen Hills station to MY-West) piling commenced, truss structure on-site and fit-out commenced for the lift on 3rd Mar '23.</li> <li>Sewer underbore at Campbell St nearing completion.</li> </ul>
Northern Area	<b>RNA</b> <ul style="list-style-type: none"> <li>Exhibition station precinct lighting along Shared Path (western side) approx. 50% complete.</li> <li>Rock bolting for Museum Link complete.</li> <li>Drainage (Eastern side) recommenced.</li> </ul> <b>Northern Corridor</b> <ul style="list-style-type: none"> <li>Local connections ongoing for RIS-N-9C switch into Stage 2.</li> <li>Open Channels and Subsoils continuing.</li> <li>Rock pitching in front of Vic Park Feeder station commenced.</li> <li>Preparation scope for Stage 2 switch.</li> </ul>
Southern Area	<b>Southern Portal / Dutton Park</b> <ul style="list-style-type: none"> <li>CSR Scope including UTX's during possession windows.</li> <li>Cope St Noise barrier work continuation.</li> <li>Continuation of piling works for Cope Street retaining walls and noise walls.</li> <li>Implementation of long-term traffic controls (roadside barriers, signage) on Annerley Rd.</li> <li>Preparation of piling pads on Kent St, ready for piling works in Feb-23.</li> </ul>
Southern Area	<b>Fairfield Station</b> <ul style="list-style-type: none"> <li>Station re-opened to the public on 9 January.</li> <li>Continue with station building fit-out works.</li> <li>Structural concrete slabs for station entry areas, stair 1 suspended slab.</li> <li>Mildmay St gravity wall Stg 2 continuation.</li> <li>Lift 2 glazing progressed, in readiness for lift commencement mid-Feb.</li> </ul>
Southern Area	<b>Yeronga Station</b> <ul style="list-style-type: none"> <li>Final lift completion works on Lift 1 &amp; Lift 3 in readiness for opening early Feb.</li> <li>Final fit-out of the station buildings in readiness for a full opening during Feb.</li> <li>Testing &amp; commissioning of permanent power and downstream sub-boards, lighting, lifts, and mechanical items.</li> <li>Testing &amp; commissioning of ROS systems back to the QR network.</li> </ul>
Southern Area	<b>Clapham Yard</b> <ul style="list-style-type: none"> <li>BR93 (Moolabin Creek Track Bridge) relieving slab FRP commenced.</li> <li>BR94 (Chale Street Bridge) FRP scope and RSS wall RW640 completed for Southern side including girder installation Southern Span 2, Deck pours being prepared.</li> <li>CSR scope continues.</li> </ul>

Area	Project Works
Southern Area	<b>Rocklea Station</b> <ul style="list-style-type: none"> <li>Continued inground services throughout platform areas – PL1 &amp; PL2/3.</li> <li>Continued FRP work for structural foundations for the overpass, lift pits and stair foundations.</li> <li>Completion of buildings and facilities for the Rocklea office compound setup.</li> <li>Excavation and FRP for DG retaining wall.</li> </ul>

**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*

*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*

*UTX – Under Track Crossing*

The following table summarises the upcoming Project Works:

*Table 2: Summary of upcoming Project Works*

Area	Project Works
Mayne Area	<b>Mayne Yard North</b> <ul style="list-style-type: none"> <li>Civil scope for Shunt Road and vehicle access road continuing.</li> <li>BR08 piling scheduled for 20<sup>th</sup> Feb.</li> </ul> <b>Mayne Yard East / West</b> <ul style="list-style-type: none"> <li>Commence soil nailed wall RW115.</li> <li>Sewer Underbore at Campbell St to be completed.</li> </ul>
Northern Area	<b>RNA</b> <ul style="list-style-type: none"> <li>EXH_018 rail switch commencing.</li> <li>Rock excavation south-eastern area of Exhibition station (not impacted by EXH Stage 2 switch).</li> <li>Drainage (eastern side) ongoing.</li> <li>Service relocations East (between Bowen Bridge Road and Exhibition station).</li> </ul> <b>Northern Corridor</b> <ul style="list-style-type: none"> <li>EXT_018 rail switch commencing.</li> <li>Ongoing OHLE foundations through the corridor.</li> </ul>
Southern Area	<b>Southern Portal / Dutton Park</b> <ul style="list-style-type: none"> <li>Continue piling – Cope St retaining walls.</li> <li>Embankment widening in preparation for UP Sub realignment in Q2 2023.</li> <li>Noise wall installation due end of Feb (Cope St).</li> </ul>
Southern Area	<b>Fairfield Station</b> <ul style="list-style-type: none"> <li>Ongoing station upgrades.</li> </ul>
Southern Area	<b>Yeronga Station</b> <ul style="list-style-type: none"> <li>All lifts to be opened to public.</li> <li>Ongoing accelerated completion of all remaining scope (excluding items due to supply chain challenges).</li> </ul>
Southern Area	<b>Clapham Yard</b> <ul style="list-style-type: none"> <li>OHLE Foundations &amp; Structures continue.</li> <li>Stage 1 BR93 (Moolabin Ck track bridge) ongoing.</li> <li>CSR works ongoing.</li> </ul>
Southern Area	<b>Rocklea Station</b> <ul style="list-style-type: none"> <li>Continue inground services throughout platform areas.</li> <li>Continue FRP work for structural foundations.</li> <li>Continue OHLE foundations and structures.</li> </ul>

## 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
Tuesday 10 January 2023	Yeronga	Noise	Station upgrade works	January 2023	Stakeholder messaged to enquire about the use of a generator overnight at Yeronga station.	Team discussed the generator use at night with the site team. The site team confirmed the generator was required for the security guards who patrolled overnight due to the CCTV system not yet being installed. Noise blankets were installed around the generator to reduce noise.	Closed
Wednesday 25 January 2023	Dutton Park	Pedestrian wayfinding	Station upgrade works	January 2023	Stakeholder called to complain about the pedestrian detour from Cornwall Street walking back towards Annerley Road. The Kent Street footpath has been closed and it was unclear how to safely navigate to Annerley Road.	Team passed on the feedback to the traffic team who organised for additional traffic controllers and signage to resolve the issue. The traffic team advised that due to wet weather the previous night not all permanent signage was able to be installed.	Closed

## 3 Environmental Monitoring Results

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

### 3.1 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 not triggered based on the predictive noise assessments for the Relevant Project Works during the reporting period. Noise monitoring associated with the SCAS works and associated activities had already occurred and has been reported as part of the 2022 Dec MER.

Noise monitoring associated with the December Christmas SCAS was undertaken during the reporting period. The results of this monitoring have been reported in the December monthly report.

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 <sub>10/eq</sub> noise goals)	Performance Goal 2 (dBA) – (Condition 11(c), Table 2 LA <sub>10</sub> noise goal + 20dBA))	Measured LA <sub>10</sub> (dBA)	Measured LA <sub>eq</sub> (dBA)	DAP engagement prior to works	Is performance Goal exceeded?	Comments For interpretation, please refer to section Error! Reference source not found.
	N/A – Not triggered													

- 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 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<sup>1</sup>.
  - 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.

<sup>2</sup> 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 for:

- The use of a 2.5T hammer at the RNA Showgrounds in proximity to State heritage listed buildings (Royal International Convention Centre and John MacDonald Stand).
- The use of an 8T vibratory roller for asphaltting works in the Yeronga Commuter Carpark in proximity of residential buildings.

The results are presented in the below Table.

Complaint-based vibration monitoring was not triggered. No complaints related to vibration occurred 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 (mm/s)	Shortest distance between Equipment and Sensitive Place (m) @Time of Monitoring"	Maximum recorded vibration level (mm/s)	Vibration goal for receiver (mm/s)	Exceedance of vibration limit?	Comments
Yeronga Commuter Carpark (Fairfield Road)	16/01/2023 to 31/01/2023	Standard Hours	376 Fairfield Road, Yeronga	Residential – According to BS7385	Construction Monitoring at Sensitive Places – Model Verification	Whacker Packer	3.82mm/s	~7m	2.08mm/s	10mm/s	No	Monitor was installed along the fence line of the nearest residential sensitive receiver ~7m from the work area.  The construction team advised an 8T vibratory roller was required to complete the works. However, the roller was not required and instead completed the works with a whacker packer.  This accounts for the variance between the predicted vibration and the maximum recorded vibration levels.
Royal International Convention Centre	01/01/2023 to 31/01/2023	24 hours/ 7days	Royal International Convention Centre	Heritage – DIN4150 Group 3	Construction Monitoring at Sensitive Places – Model Verification	2.5T hydraulic hammer	2.1mm/s	36m	N/A	3mm/s	No	Monitor was installed at the façade of the building within a storage room approximately 36m from the hydraulic hammer.  No hammering was required during the reporting period; therefore, no vibration data was recorded at this monitoring location.

### 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 Vibration Monitoring

#### 3.1.6.1 Model Verification

##### 3.1.6.1.1 Royal International Convention Centre Results

Vibration monitoring during rock breaking works at the RNA Showgrounds was undertaken at the foundation of the State heritage Royal International Convention Centre inside a storeroom. This location was selected based on the outcomes of predictive assessments.

No rock breaking or other vibration intensive activities were undertaken during the reporting period. Therefore, no vibration data was recorded at this location.

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

##### 3.1.6.1.2 Yeronga Commuter Carpark Results

Vibration monitoring during asphaltting works at the Yeronga Commuter Carpark on Fairfield Road was undertaken along the fence line of the nearest sensitive residential place. This location was selected as it was the closest receiver to the work area.

The peak reading of 2.08mm/s was associated with the use of a whacker packer. Initially the construction team advised that an 8T vibratory roller was required to complete the works, however they were able to complete the asphaltting using the whacker packer.

No exceedances of the vibration goal were recorded.

## 3.2 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 28 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
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

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
TSP / PM <sub>10</sub> 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 <sub>10</sub> Monitor	Mayne Yard East (Eastern Air Shed)	Mayne Yard East	26 August 2022	Active
TSP / PM <sub>10</sub> Monitor	Clapham Yard (Eastern Air Shed)	Clapham Yard	9 August 2021	Active
TSP / PM <sub>10</sub> Monitor	RNA (Western Air Shed)	RNA	25 August 2020	Active

### 3.2.1 Dust results

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

- Mayne Yard, RNA and Dutton Park:
  - 12 December 2022 to 11 January 2023
- Clapham Yard
  - 12 December 2022 to 16 January 2023

The Clapham Yard DDG is located on private property and was inaccessible due to the Christmas holiday period.

The DDG was therefore left for an extended period of 36 days. As per AS/NZS 3580.10.1, section 7.3, *for routine monitoring programs, the period of exposure is 30 +/- 2 days.*

Although the Clapham Yard results are not considered a representative sample according to the Australian Standard, as per the advice of the Project Certified Air Quality Professional (CAQP), the sample can still be recorded as indicative.

This is possible due to the DDG being active for a period longer than 30 +/- 2 days. As the gauge was in place for an additional 6 days and still did not record an exceedance, it is highly unlikely that an exceedance would have occurred over a 30-day period.

On this basis, the deposited dust results should be considered indicative only.

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 <sup>2</sup> /day)	AQ-01 - RNA Showgrounds (mg/m <sup>2</sup> /day)	AQ-04 Grafton Street (E Mayne) (mg/m <sup>2</sup> /day)	AQ-06 – Clapham Yard (mg/m <sup>2</sup> /day)	AQ-08 – Dutton Park (mg/m <sup>2</sup> /day)
120	57	13	33*	53
Total Rainfall during Period (mm)	44.8	47.4	93.4	90.0

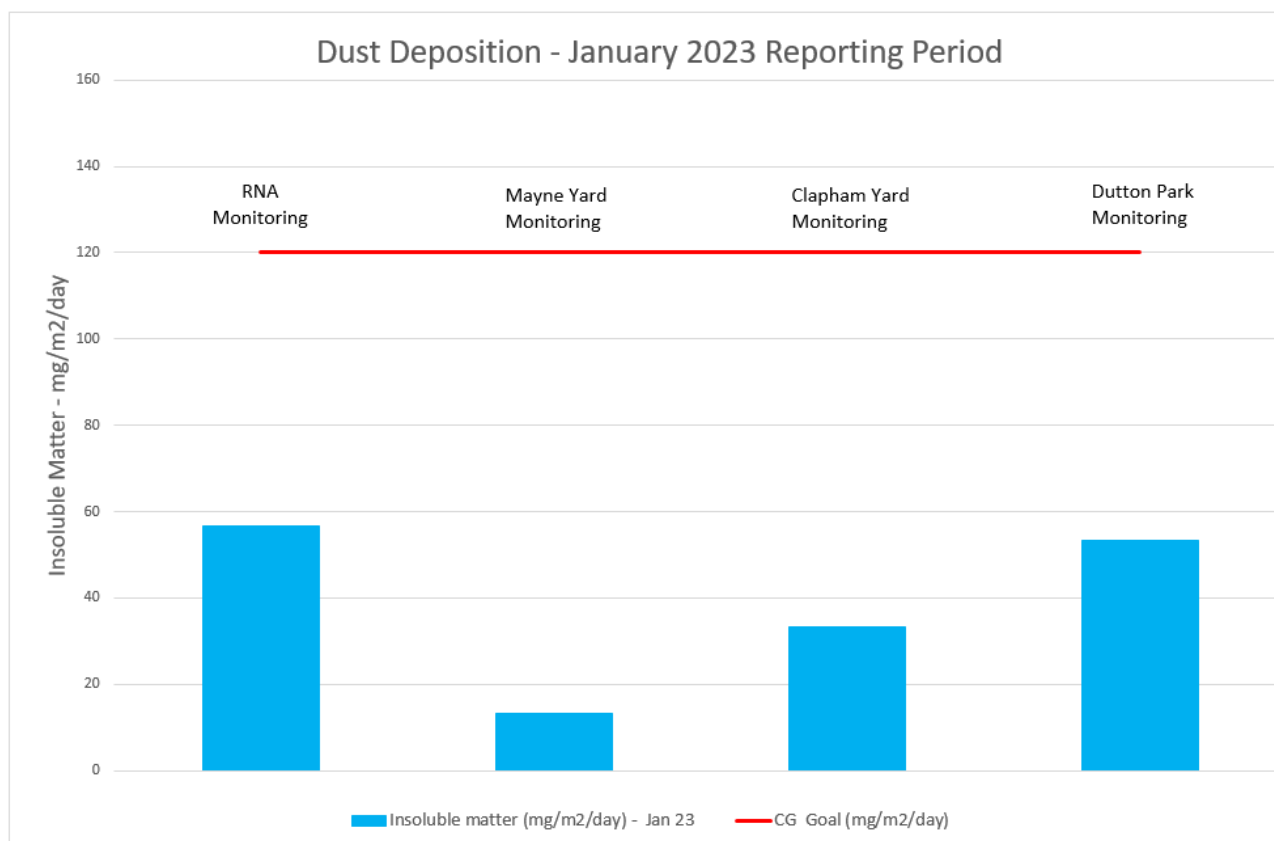


Figure 1 Air Quality Monitoring (Deposited Dust) Results

## 3.2.2 Particulates results

### 3.2.2.1 Air Quality Monitoring Stations

UNITY had three (3) active air quality monitoring stations in place for the reporting period as detailed in Table 6.

### 3.2.2.2 Monitoring Results – Reporting Period

External ambient air quality data was collected for total suspended particles (TSP), and particulate matter less than 10  $\mu\text{m}$  (PM<sub>10</sub>).

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

PM<sub>10</sub> is one of the indicators for which the Coordinator-General has imposed a goal of 50  $\mu\text{g}/\text{m}^3$  (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 air quality professionals. The results are represented in the below figures.

It is noted that no data was recorded for TSP and PM<sub>10</sub> for the following periods:

- Clapham Yard:
  - 1 – 31 January 2023
- Mayne Yard:
  - 30 – 31 January 2023

The ongoing data loss issues at Clapham Yard across December 2022 – January 2023 was investigated by the equipment supplier who identified a faulty data cable caused the issue. However, due to the Christmas

holiday period the issue could not be identified until the service technicians returned from leave in late January 2023.

Due to the ongoing data recording issues at Clapham Yard the rental unit installed at Mayne Yard East was relocated to Clapham Yard to minimise the chance of further data loss. The DMP was relocated on 30 January 2023, which meant both locations did not record sufficient data (min. 18 hours, or 75%) across the 24-hour period.

Both the UNITY and the rental unit DMPs were fitted with larger batteries to increase the electrical supply to the larger solar panels to decrease the likelihood of data loss due to inclement weather. However, when the technician adjusted the voltage supply to the batteries, the fuses blew due to the voltage capacity being exceeded. This resulted in data loss on 31 January 2023 for both DMPs. The larger batteries were replaced by the smaller factory issued batteries, and the voltage issue was rectified the following day by UNITY.

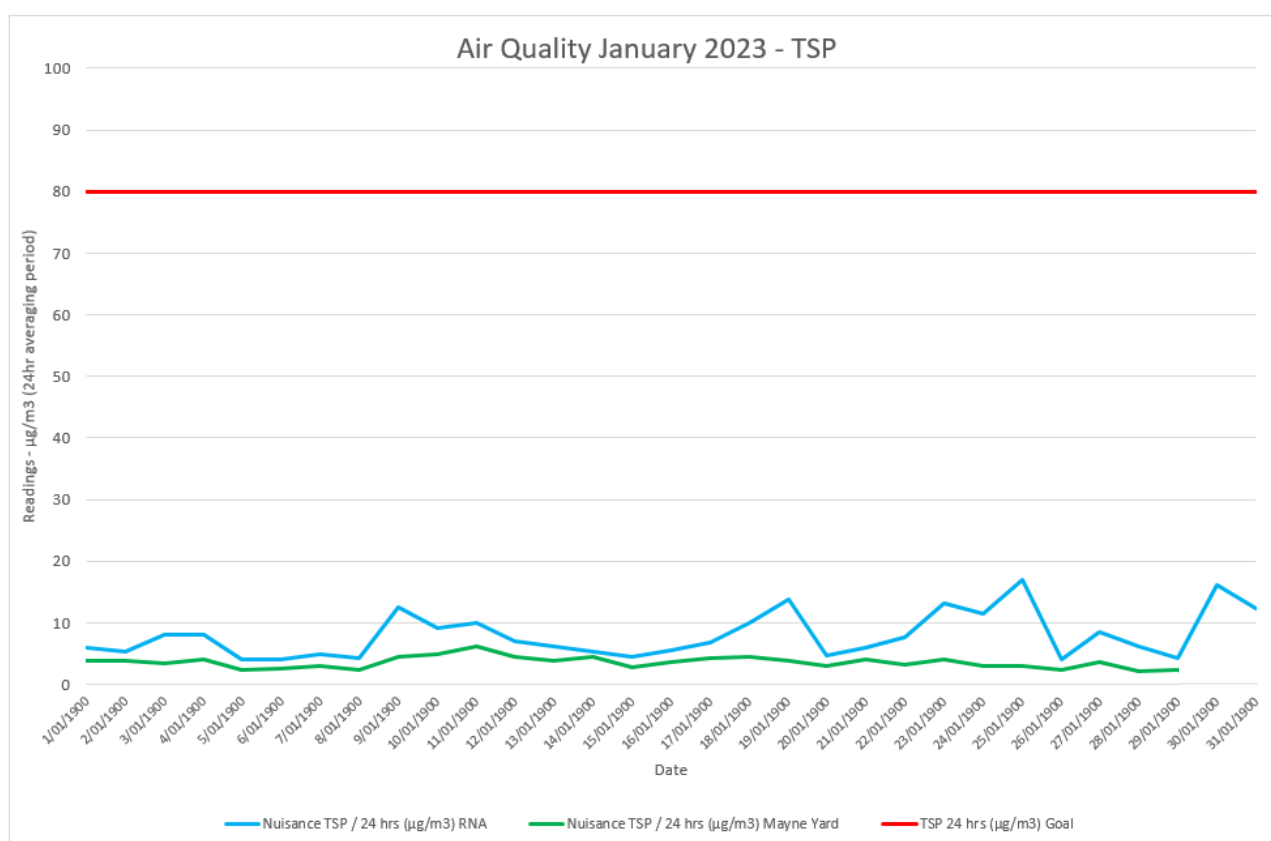


Figure 2 Air Quality Monitoring (TSP) Results

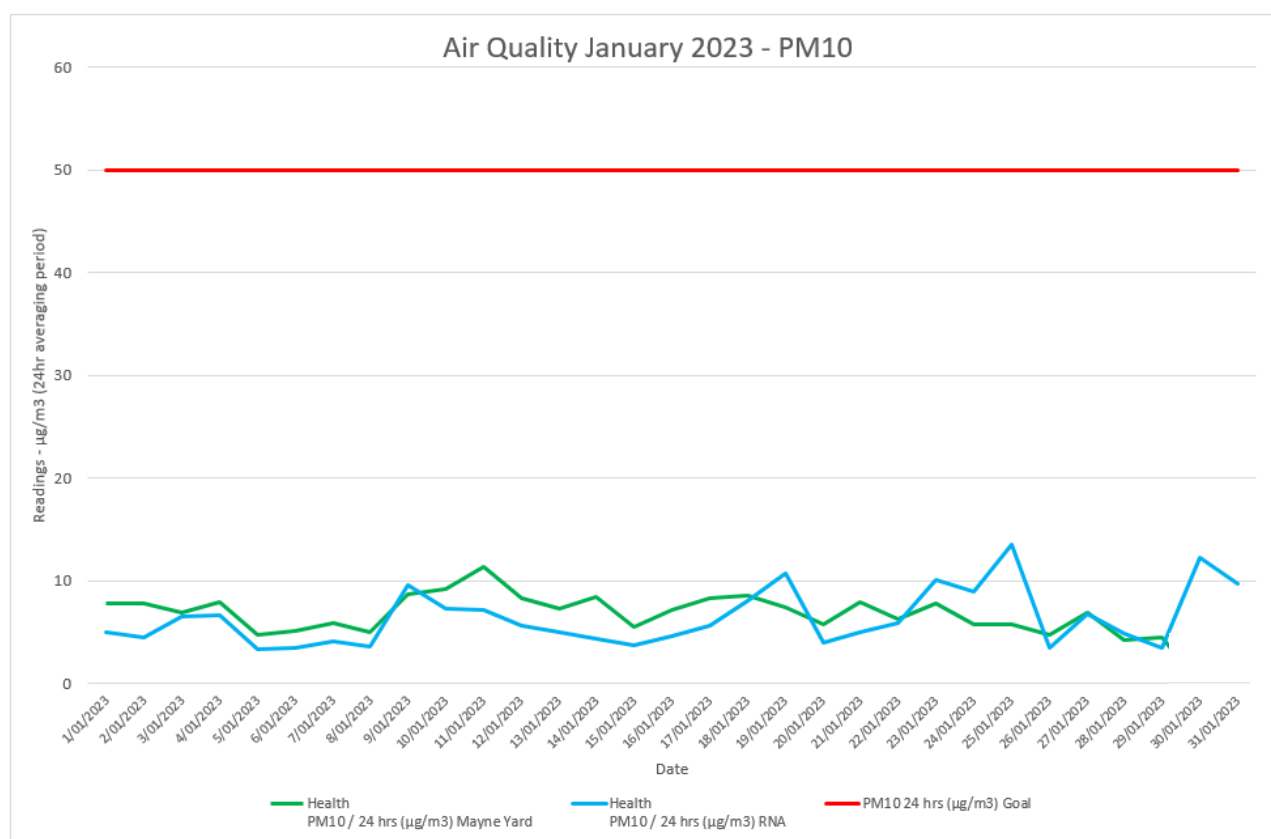


Figure 3 Air Quality Monitoring (PM10) Results

### 3.2.3 Monitoring Results – Annual Averaging

Imposed Condition 13 (a) sets annual average air quality goals for TSP (Human health) and PM<sub>10</sub> (Human health).

The below table summarises where TSP and PM<sub>10</sub> 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<sub>10</sub> 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 <sub>10</sub> Monitor	Northern Corridor (Eastern Air Shed)	23 April 2020	13 January 2021	260 over 365 days	71% over 365 days	<i>Indicative only</i> Data capture did not meet the minimum data capture requirements
TSP / PM <sub>10</sub> Monitor	Mayne Yard North (Eastern Air Shed)	23 April 2020	11 May 2022	<b>Period 1</b> (to 23 April 2021) 358 over 365 days <b>Period 2</b> (24 April 2021 to 25 April 2022) 364 over 365 days <b>Period 3</b> (26 April 2022 to 11 May 2022) 3 days over 47 days	<b>Period 1</b> 98% over 365 days <b>Period 2</b> 99% Over 365 days <b>Period 3</b> 17% Over 47 days	<b>Applicable for Period 1</b> Data capture met minimum data capture requirements <b>Applicable for Period 2</b> Data capture has met minimum data capture requirements <b>Applicable for Period 3</b> Data capture has not met minimum data capture requirements
TSP / PM <sub>10</sub> Monitor	Mayne Yard East (Eastern Air Shed)	26 August 2022	Not yet decommissioned	<b>Period 1</b> (Started 26 August 2022) 151 days over 159 days	<b>Period 1</b> 95% Over 159 days	<b>Not yet applicable for Period 1</b> Data capture has not yet met minimum data capture requirements
TSP / PM <sub>10</sub> Monitor	RNA (Western Air Shed)	11 June 2020	Not yet decommissioned	<b>Period 1</b> (to 11 June 2021) 314 over 365 days <b>Period 2</b> (12 June 2021 to 12 June 2022) 290 over 365 days <b>Period 3</b> (Started 13 June 2022) 157 over 174 days	<b>Period 1</b> 86% over 365 days <b>Period 2</b> 79% Over 365 days <b>Period 3</b> 90% Over 174 days	<b>Applicable for Period 1</b> Data capture met minimum data capture requirements <b>Applicable for Period 2</b> Data capture met minimum data capture requirements <b>Not yet applicable for Period 3</b> 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 <sub>10</sub> Monitor	Clapham Yard (Eastern Air Shed)	1 February 2021	Not yet decommissioned	<b>Period 1</b> (to 31 January 2022) 326 over 364 days <b>Period 2</b> (started 01 February 2022) 190 over 365 days <b>Period 3</b> (started 01 February 2023)	<b>Period 1</b> 90% over 364 days <b>Period 2</b> 57% Over 365 days <b>Period 3</b> Yet to commence	<b>Applicable for Period 1</b> Data capture met minimum data capture requirements <b>Applicable for Period 2</b> Data capture did not meet the minimum data capture requirements <b>Not yet applicable for Period 3</b> 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<sub>10</sub> against the performance goals imposed under Condition 13(a). Results in *italics* 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 <sup>3</sup>		Period 1	8 µg/m <sup>3</sup>	11 µg/m <sup>3</sup>	Not yet applicable	18 µg/m <sup>3</sup>	8 µg/m <sup>3</sup>
		Period 2	-	10 µg/m <sup>3</sup>	-	15 µg/m <sup>3</sup>	16 µg/m <sup>3</sup>
		Period 3	-	Not applicable	-	Not yet applicable	Not yet applicable
PM <sub>10</sub> 25 µg/m <sup>3</sup>		Period 1	5 µg/m <sup>3</sup>	7 µg/m <sup>3</sup>	Not yet applicable	11 µg/m <sup>3</sup>	5 µg/m <sup>3</sup>
		Period 2	-	7 µg/m <sup>3</sup>	-	10 µg/m <sup>3</sup>	14 µg/m <sup>3</sup>
		Period 3	-	Not yet applicable	-	Not yet applicable	Not yet applicable

## 3.2.4 Interpretation

### 3.2.4.1 Particulates Results

External ambient air quality was collected for total suspended particulates (TSP) and particulate matter less than 10µm (PM<sub>10</sub>).

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

PM<sub>10</sub> is one of the indicators for which the Coordinator General has imposed a goal of 50µg/m<sup>3</sup> (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<sub>10</sub> at Mayne Yard and RNA
- There were no complaints received associated with air quality concerns during the reporting period for the sites of Mayne Yard, RNA and Clapham Yard.

### 3.2.4.2 Clapham Yard January Interpretation

In the absence of particulates data for the reporting period at Clapham Yard, 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.

#### 3.2.4.2.1 UNITY Works

During the reporting period Clapham Yard had a shutdown period from 3 – 8 January 2023. Works recommenced 9 January 2023 and for the remainder of the reporting period the Clapham Yard site removed stockpiled soil for disposal to landfills which involved approximately sixty-five (65) truck movements. This equates to an average of 2 – 3 truck movements per day. As standard practice, the Clapham Yard site is routinely sprayed down with a water cart throughout the day to mitigate dust generation. Capping has progressed across Clapham yard as part of the final treatment works and landscaping of batters has commenced in areas nearing completion reducing dust generation from these locations on the project site.

### 3.2.4.2.2 Meteorological Conditions

As shown in the wind rose below (refer Figure 4), the predominant winds during the reporting period were from an easterly direction. As a result, any potential dust generated from UNITY works would have travelled west away from the sensitive receivers located east of Clapham Yard on Ipswich Road.

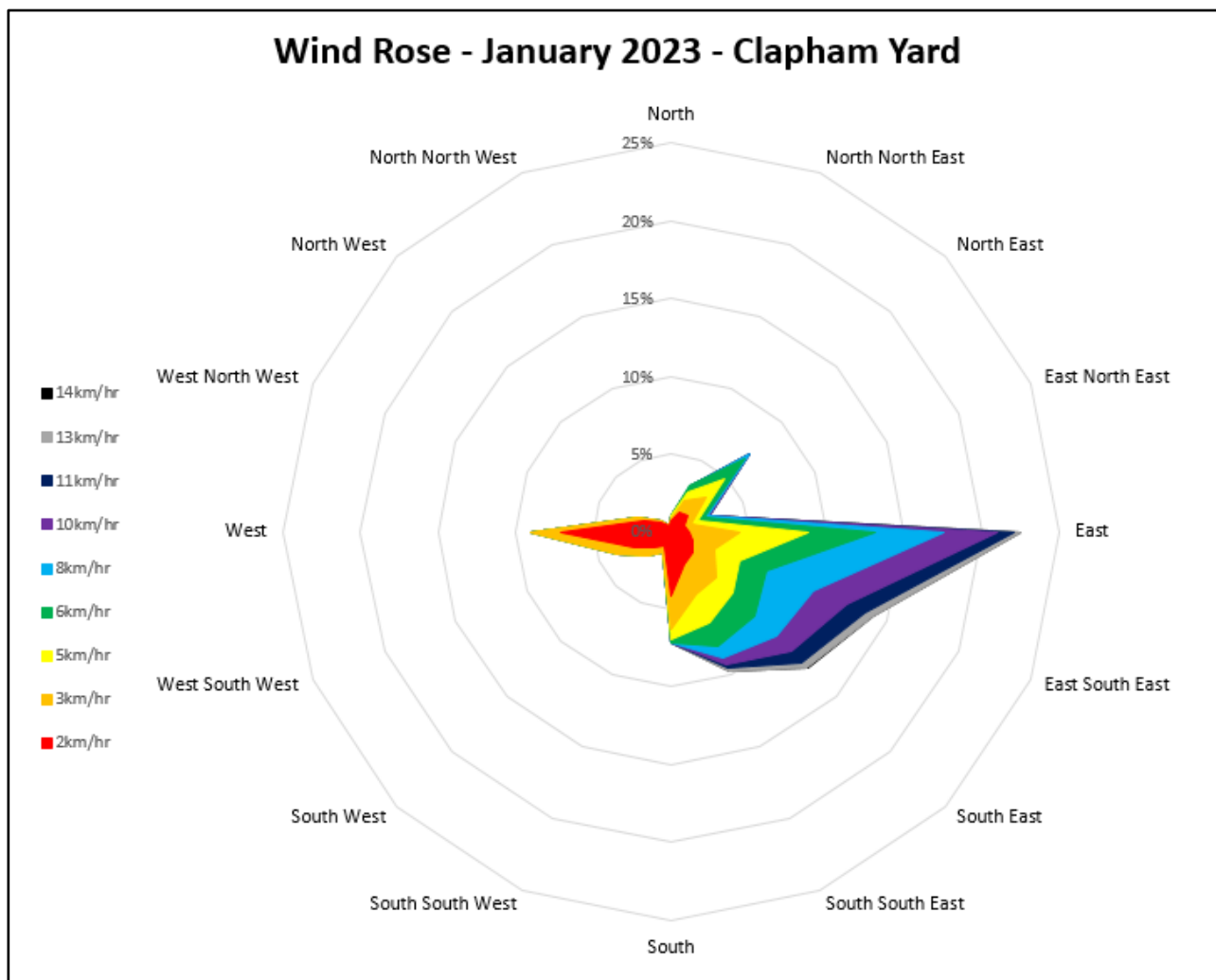


Figure 4 Clapham Yard January 2023 Wind Rose

### 3.2.4.2.3 Air Quality Complaints

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

### 3.2.4.2.4 Depositional Dust Results

As detailed in Table 7, despite the result being considered an indicative result only, the depositional dust results (33mg/m<sup>2</sup>/day) were a magnitude of more than 3.5x lower than the CGCR Goal (120mg/m<sup>2</sup>/day).

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

## 3.3 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) and Condition 18 was triggered during the reporting period. Post rainfall response monitoring and dewatering monitoring were undertaken.

### 3.3.1 Rainfall Records

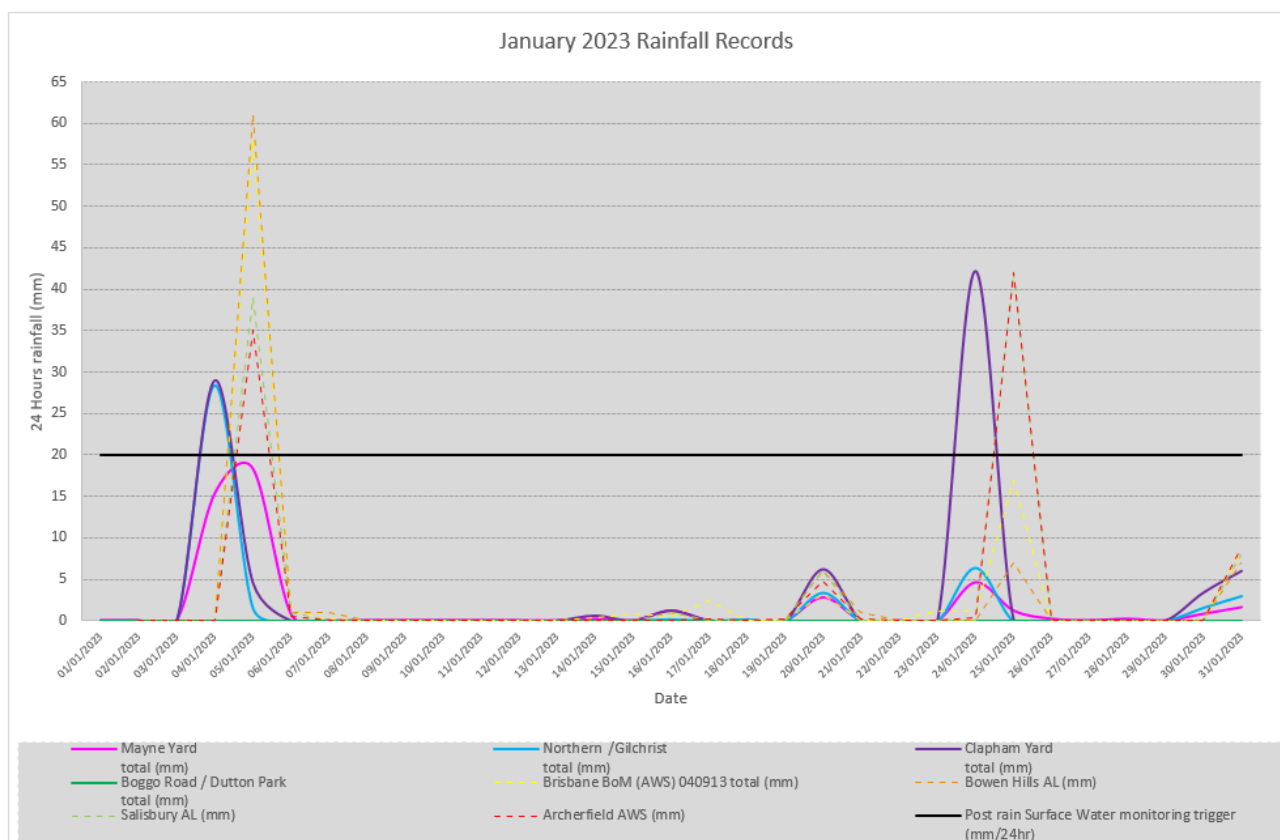


Figure 5 January 2023 Rainfall Records

### 3.3.2 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 triggered as per Condition 15(b) and Condition 18.

Table 10 Post rainfall monitoring results

Date	Location	Waterway	Tide	Discharge Criteria <sup>2</sup>				TSS Delta
				Turbidity (NTU) Nil until Turbidity / TSS correlation achieved <sup>3</sup>	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	change of 5mg/L or 10% increase (whichever is the greatest)
25 January 2023	SW-5 (Upstream)	Moolabin Creek	N/A	Field: 42.6 Lab: 30.4	Not tested	Not tested	6.8	Yes Refer to section <b>Error! Reference source not found.</b> for details
25 January 2023	SW-6 (Midstream)	Moolabin Creek	N/A	Field: 21.3 Lab: 16.8	5	70	6.5	
25 January 2023	SW-6a (Downstream)	Moolabin Creek	N/A	Field: 54.3 Lab: 38.2	60	53	6.5	
25 January 2023	SW-7a (Upstream)	Rocky Water Holes Creek	N/A	Field: 23.6 Lab: 17.8	<5	84	6.7	Yes Refer to section <b>Error! Reference source not found.</b> for details
25 January 2023	SW-7 (Downstream)	Rocky Water Holes Creek	N/A	Field: 42.3 Lab: 28.0	12	75	7.0	

### 3.3.2.1 Post Rainfall Monitoring Results Interpretation

The post rainfall monitoring event identified that water quality was visually more turbid than baseline conditions throughout the system at all monitoring locations.

Where in situ monitoring was carried out, downstream water quality data exhibited >10% increase in turbidity (NTU). Further investigation was required to ascertain whether this change in water quality is related to released water from the Project Works.

Therefore, a detailed review of the data was required to ascertain whether:

- The source of the increased turbidity could be reasonably attributed solely to the Project Works; and
- If so, had the Project implemented all reasonable and practicable measures to minimise environmental impacts.

The assessment found that the storm event size was above the design criteria for the controls required for the Clapham Yard and Rocklea Station works. The entire rainfall event was between 2EY and 1EY with microbursts exceeding 0.2EY over a 30-minute period.

The Clapham Yard and Rocklea Station Erosion and Sediment Control Plans (ESCP) were developed by suitably qualified persons consistent with the Guidelines for Best Practice Erosion and Sediment Control (IECA 2008) as per Imposed Condition 18.

Additionally, site inspections prior to the rainfall event (23 January 2023) identified that all controls required by the approved the ESCPs were implemented and fully functional.

Therefore, the RIS scope of works were compliant with Imposed Conditions 15 and 18.

<sup>2</sup> Refer to the waterways and water quality management plan, a C-EMP sub-plan for details of derivation of the discharge criteria

<sup>3</sup> 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.

### 3.3.3 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 monitoring completed in June 2022.

Wet season (September to March) monitoring was completed in February 2023, prior to the issue of this report. Results will be discussed in February's report.

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

### 3.3.4 Groundwater Discharge Monitoring Results

Groundwater discharge monitoring was not triggered during the reporting period.

### 3.3.5 Surface Water Discharge Monitoring

Surface water discharge monitoring was not triggered during the reporting period.

Table 111 Surface Water Discharge Results

Date	Location	Waterway	Discharge Criteria <sup>4</sup>			
			Turbidity (NTU) Nil until Turbidity / TSS correlation achieved <sup>5</sup>	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
Nil – Not Triggered						

<sup>4</sup> Refer to the waterways and water quality management plan, a C-EMP sub-plan for details of derivation of the discharge criteria

<sup>5</sup> 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

### 4.1 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 122 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
N/A for reporting period					

### 4.2 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 133 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 <sub>10</sub> , and deposited dust was also undertaken TSP, PM <sub>10</sub> monitoring was carried out for three active Worksites	Compliant  Compliant  Compliant	Not Applicable
Air Quality	Complaint's response	Moderate to High	Yes – visual monitoring undertaken during inspection	Compliant	Not Applicable
Noise	Buffer distance tests based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	No – monitoring not triggered	N/A	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 No complaints	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 – monitoring triggered for Yeronga Asphaltting Works and RNA Stage 2 Works	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	Wet season monitoring completed in January 2022 Dry Season monitoring completed in June 2022	Compliant	Not Applicable
Water Quality	Post Rainfall	Moderate to High	Yes – one monitoring event (5 locations) undertaken 25 January 2023	Compliant	Not Applicable
Water Quality	Dewatering	Moderate to High	Not triggered No dewatering to stormwater	Compliant	Not Applicable



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

## Attachment 2   Monitoring Locations – Noise and Vibration

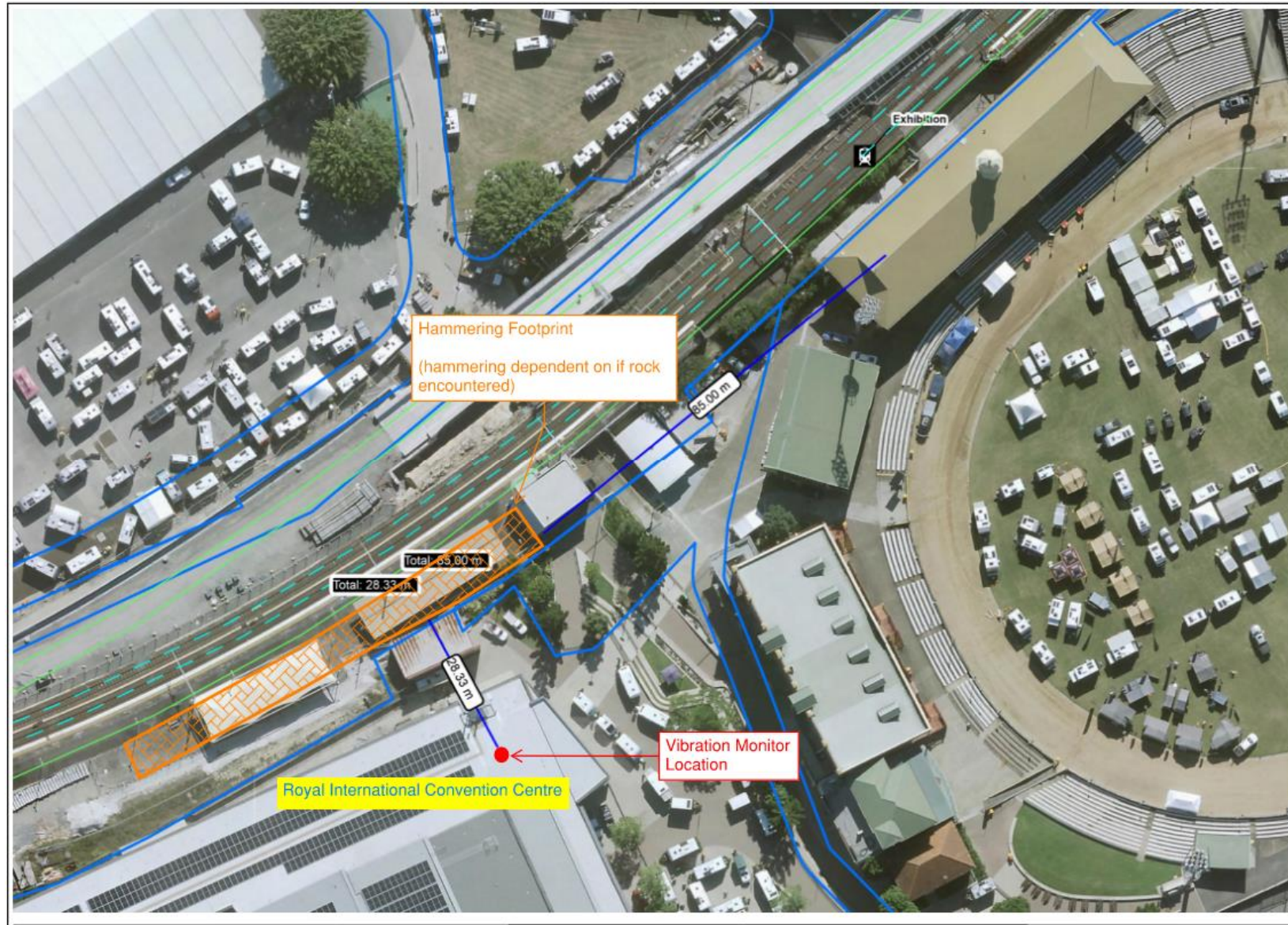
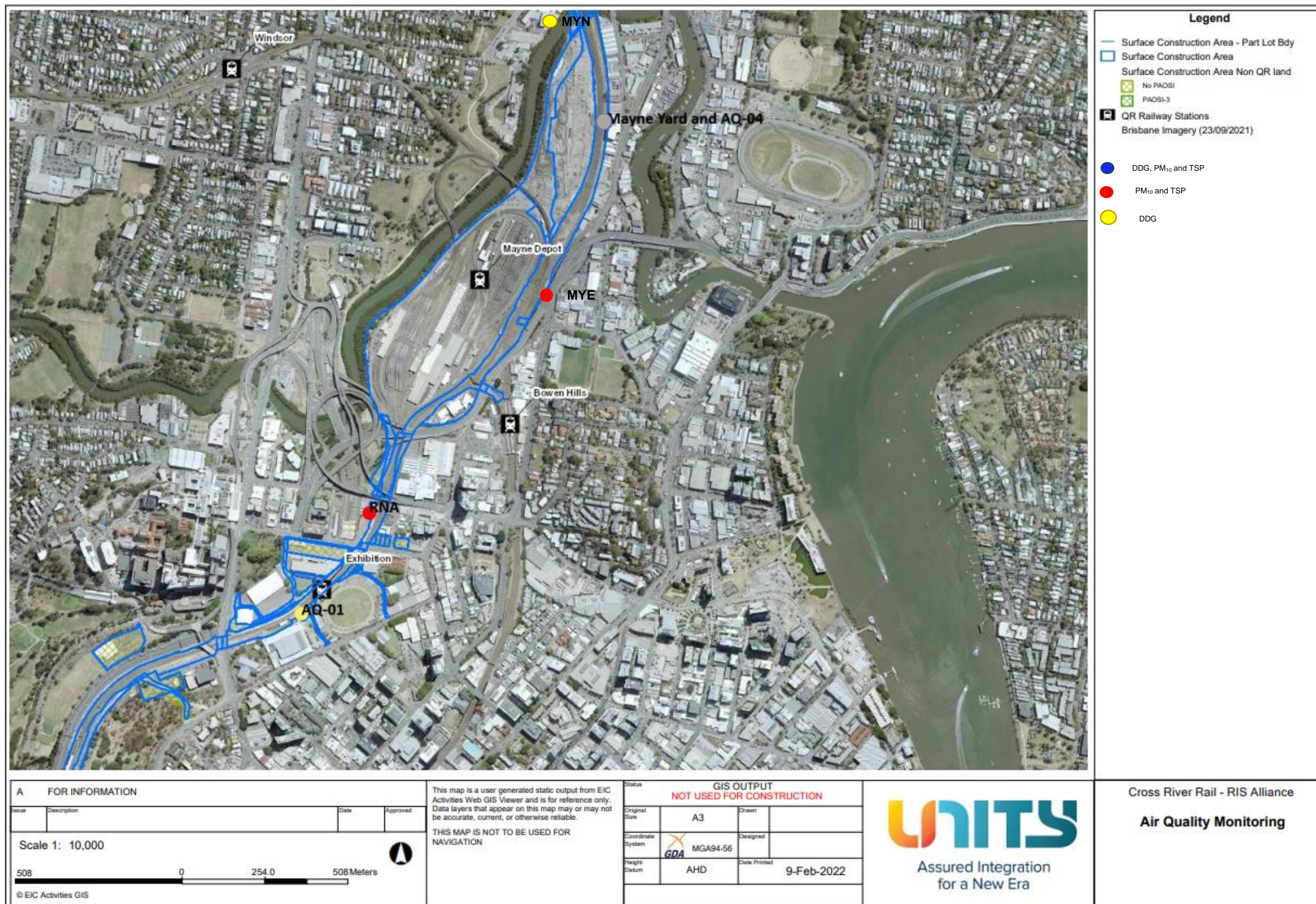


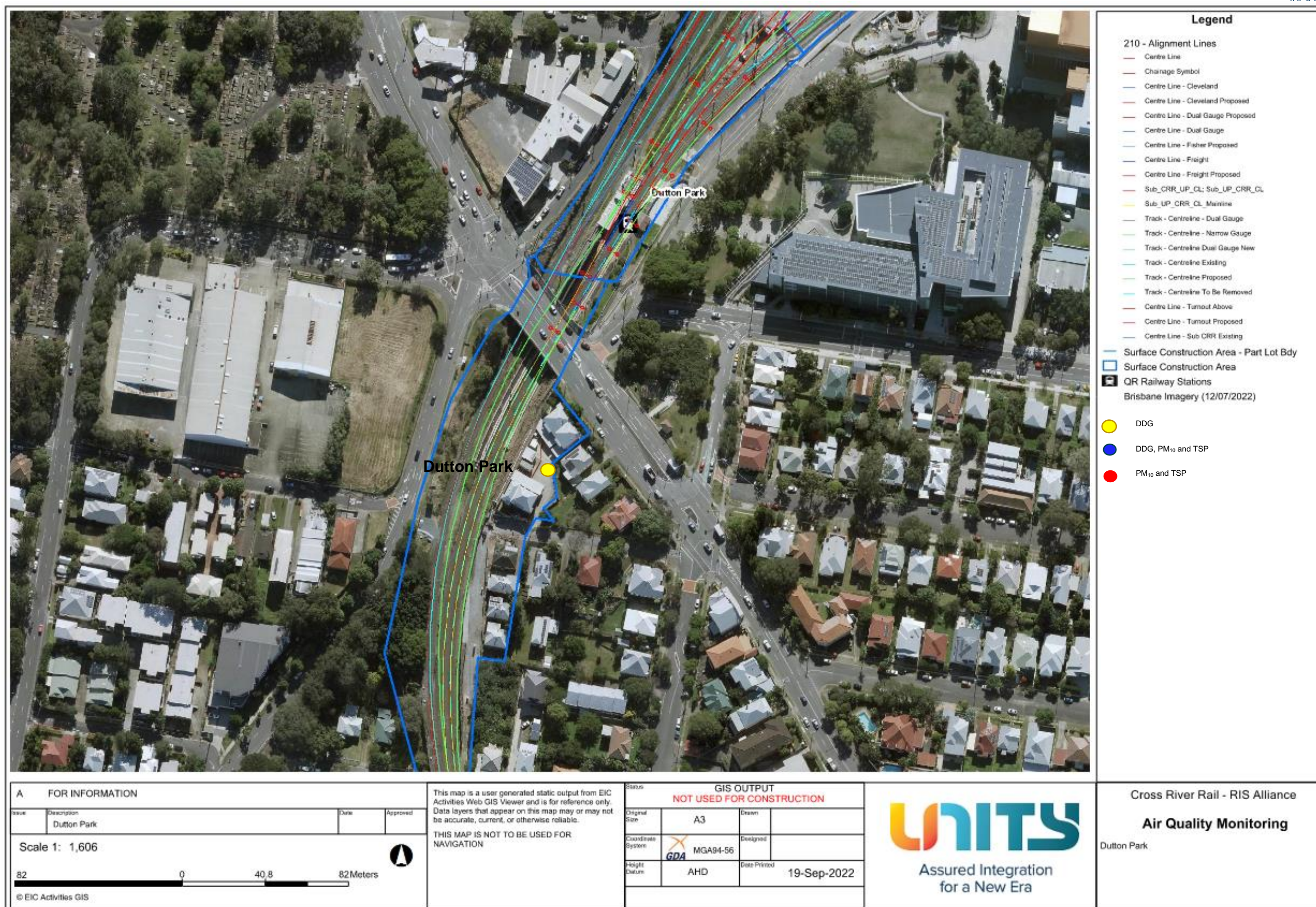
Figure 5 RNA January 2023 Vibration Monitoring

## Attachment 3    Monitoring Locations – Air Quality

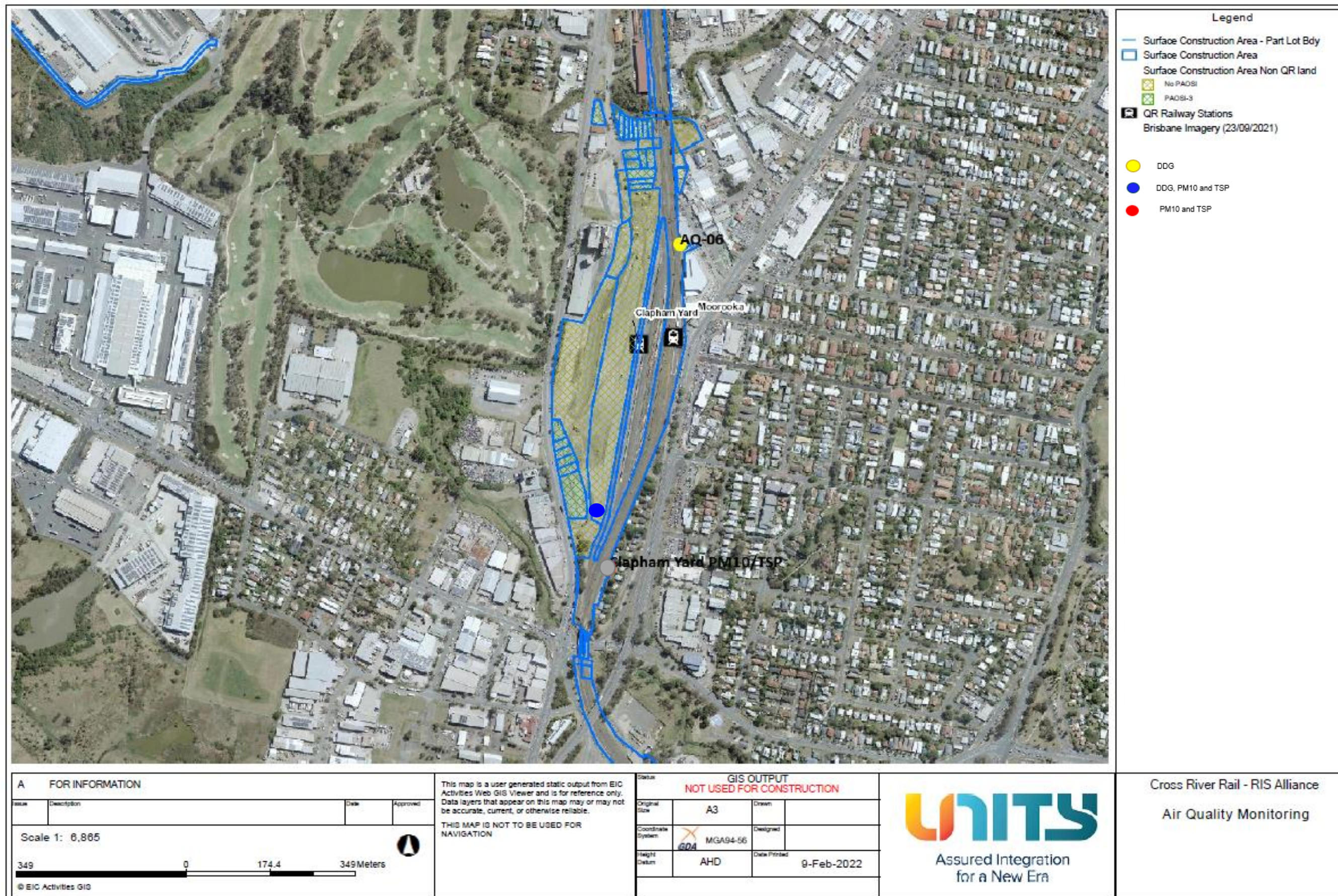








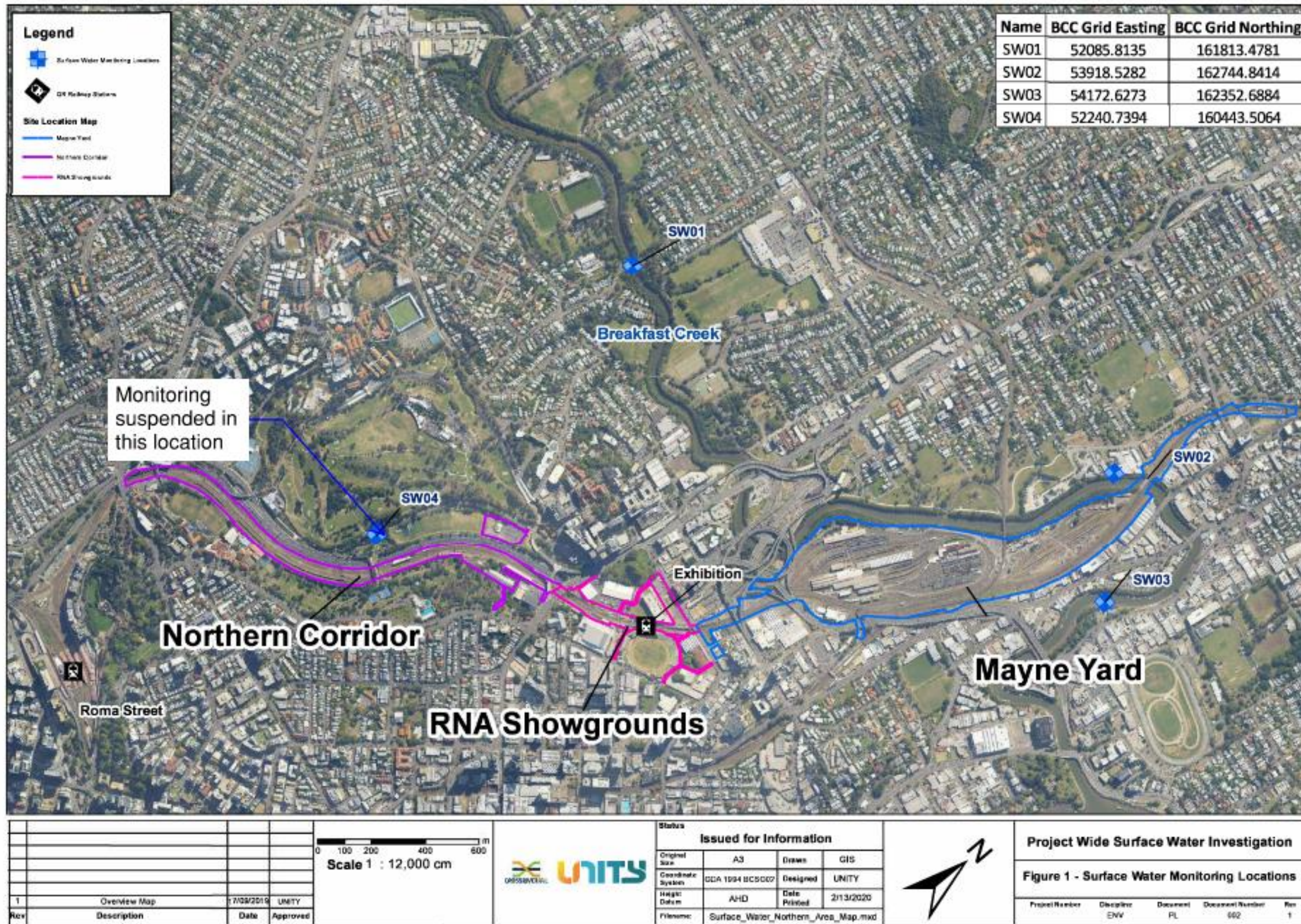




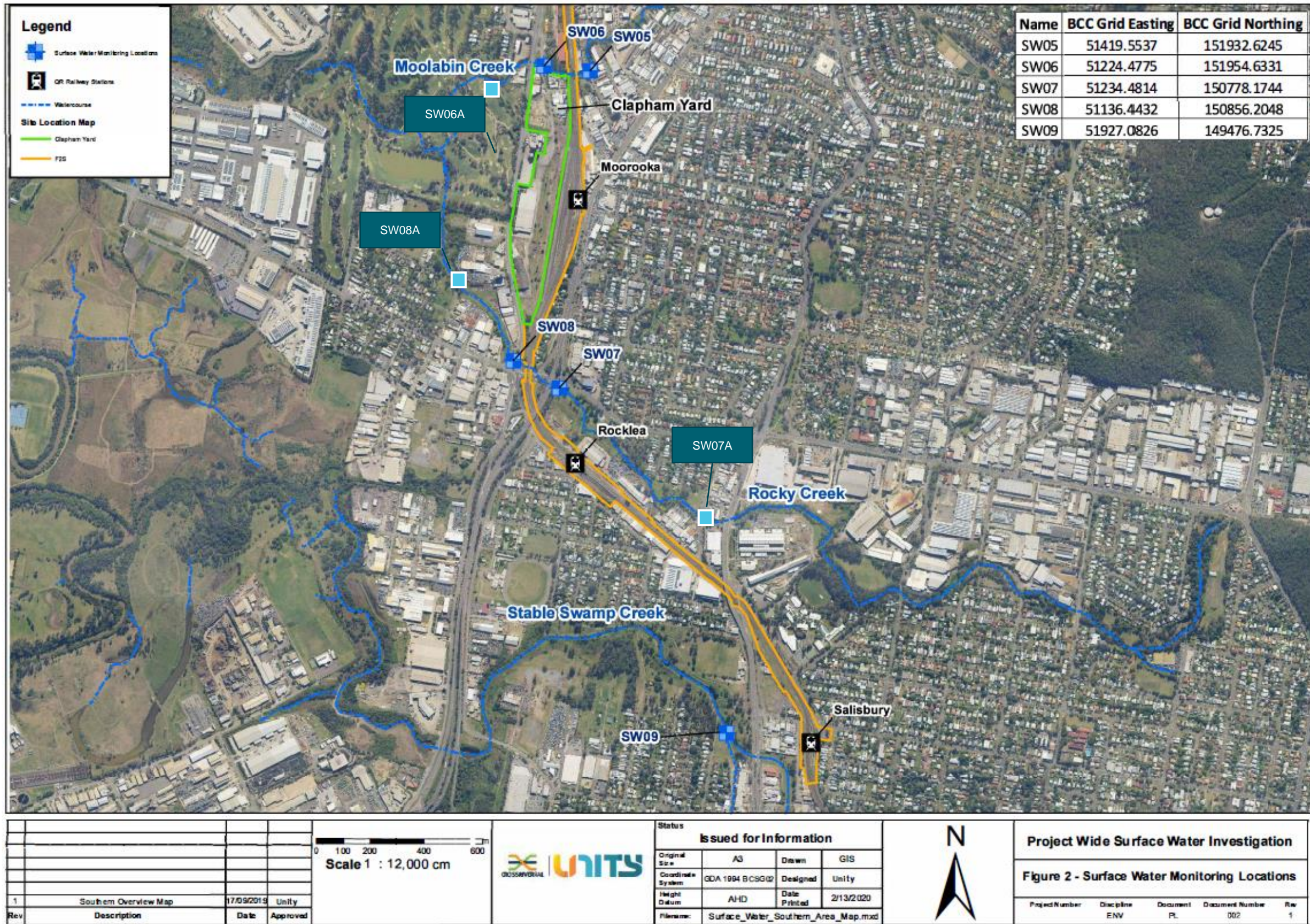


## Attachment 4    Monitoring Locations – Surface Water











# Appendix B TSD Monthly Report

## COORDINATOR-GENERAL'S MONTHLY REPORT: JANUARY 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 two (2) occasions, noise monitoring was conducted on seven (7) occasions during January 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 January 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-four (24) occasions. Each monitoring event confirmed project requirements were adhered to. One (1) round of surface water quality monitoring was conducted; the monitoring events 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.	<b>General conditions</b> – 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.	<b>Outline Environmental Management Plan</b> – timely submission to the Coordinator-General, including required sub-plans.	N/A	The OEMP is not an obligation of the CBGU Joint Venture.
3.	<b>Design</b> – the achievement of the Environmental Design Requirements.	Yes	Design and implementation proceeded in accordance with the Environmental Design Requirements.
4.	<b>Construction Environmental Management Plan</b> – all relating to Relevant Project Works.	Yes	All CBGU works were conducted in accordance with the Construction Environmental Management Plan (CEMP) (Rev 11).
5.	<b>Compliance and Incident management</b> – Non-compliance events, notifications, and reporting.	Yes	Nil non-compliances occurred during the monitoring period (refer to Section 4).
6.	<b>Reporting</b> – Monthly and Annual reporting.	Yes	All reporting requirements are completed in accordance with Imposed Condition 6.
7.	<b>Environmental Monitor</b> – 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.	<b>Community Relations Monitor</b> – 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.	<b>Community engagement plan</b> – 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.	<b>Hours of work</b> – 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.	<b>Noise</b> – 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.
	<b>Vibration</b> – 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.	<b>Property damage</b> relating to ground movement	Yes	The management of potential impacts relating to property damage has been completed in accordance with Imposed Condition 12.
13.	<b>Air quality</b> – 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.	<b>Traffic and transport</b> – 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.	<b>Water quality</b> – 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.	<b>Water resources</b> – 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.	<b>Surface water</b> – 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.	<b>Erosion and sediment control</b> – 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.	<b>Acid Sulfate Soils</b> managed as per the <i>Queensland Acid Sulfate Soil Technical Manual</i> .	Yes	CBGU has prepared and manages processes to ensure acid sulphate soils are managed in accordance with Imposed Condition 19.
20.	<b>Landscape and open space</b> – 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.	<b>Worksite rehabilitation</b> – 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.	<b>Flood Water</b> – 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 Change Reports acknowledges instances that exist that these goals may not be achieved.

Two (2) vibration monitoring sessions were conducted in January 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.	11/01/2023	14:17	13/01/2023	Stanley Street (Woolloongabba Precinct)	0.11	0.21	50	Commercial structure	Yes
2.	30/01/2023	10:21	31/01/2023	Stanley Street (Woolloongabba Precinct)	0.11	0.23	50	Commercial structure	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 seven (7) occasions during January 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 <sup>[3]</sup> Monitoring	Activity	Dominant Noise Source	Noise Goal LA10 <sup>[1]</sup>	Noise level LA10	Noise Goal LAeq <sup>[2]</sup>	Noise level LAeq	Adhered to Project Requirements (Yes / No)
1.	10/01/2023	3:13:00 PM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Concrete works	Construction	72	66.6	62	64.6	Yes
2.	13/01/2023	11:51:00 AM	Gregory Terrace (Northern Portal)	Model Verification	External	Railway works	Construction	62	62.6	52	61.2	Yes
3.	13/01/2023	9:29:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Excavation	Road Traffic	67	69.8	52	67.3	Yes
4.	17/01/2023	12:43:00 PM	Kent Street (Southern Portal)	Model Verification	External	Piling	Road Traffic	72	77.8	62	74.2	Yes
5.	18/01/2023	4:21:00 PM	Mary Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete works	Construction	72	70.2	62	67.9	Yes

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External <sup>[3]</sup> Monitoring	Activity	Dominant Noise Source	Noise Goal LA10 <sup>[1]</sup>	Noise level LA10	Noise Goal LAeq <sup>[2]</sup>	Noise level LAeq	Adhered to Project Requirements (Yes / No)
6.	19/01/2023	9:35:00 AM	Joe Baker Street (Boggo Road Precinct)	Model Verification	External	Concrete works	Construction	77	69.2	67	67.3	Yes
7.	19/01/2023	8:31:00 PM	Roma Street (Roma Street Precinct)	Model Verification	External	Concrete works	Railway	62	67.6	52	65	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 January 2023. The dust deposition gauges results for the reporting period are detailed below, and all monitoring data adhered to project requirements.

Table 4.2: Air Quality Monitoring – Deposited Dust Data

Location	Project Wide Air Quality Goals <sup>[1]</sup>			Monitoring results (mg/m <sup>2</sup> /day)	Comments
	Criterion	Air Quality Indicator	Goal (mg/m <sup>2</sup> /day)		
Northern Portal	Nuisance	Deposited dust	120	41.94	Air quality monitoring was performed during the reporting period. All results adhered to project requirements.
Roma Street Precinct				16.13	
Albert Street Precinct (North)				26.67	
Albert Street Precinct (South)				20.00	
Woolloongabba Precinct (North)				19.35	
Woolloongabba Precinct (South)				32.26	
Boggo Road Precinct (North)				31.25	
Boggo Road Precinct (South)				34.38	
Southern Portal (South)				9.38	
Southern Portal (East)				15.63	

### 3.3.2 Particulates and Ambient Air Quality Results

Total Suspended Particles (TSP) and particulate matter less than 10µm (PM10) monitoring were conducted during January 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 January 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	PM10	Woolloongabba		Albert		Boggo Road		Northern Portal	
	Project Goal <sup>[1]</sup>	Project Goal	TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
	(µg/m <sup>3</sup> /24 hr)									
01-Jan-23	80	50	12.50	12.37	11.44	10.93	6.89	6.88	13.17	13.16
02-Jan-23	80	50	9.74	9.66	10.49	9.85	6.01	6.01	9.78	9.76
03-Jan-23	80	50	10.49	10.34	13.35	11.45	6.73	6.72	10.07	10.04
04-Jan-23	80	50	14.05	13.83	19.06	15.40	9.63	9.62	13.25	13.21
05-Jan-23	80	50	13.77	13.55	14.03	11.90	10.18	10.17	13.39	13.33
06-Jan-23	80	50	6.41	6.27	16.12	12.18	3.38	3.37	6.97	6.94
07-Jan-23	80	50	7.07	6.98	12.10	9.75	3.97	3.97	6.73	6.71
08-Jan-23	80	50	5.73	5.66	7.14	6.51	3.21	3.21	5.49	5.48
09-Jan-23	80	50	9.57	9.47	14.92	12.47	- <sup>[2]</sup>	- <sup>[2]</sup>	9.49	9.45
10-Jan-23	80	50	9.42	9.29	17.32	13.54	- <sup>[2]</sup>	- <sup>[2]</sup>	8.96	8.92
11-Jan-23	80	50	10.50	10.32	17.85	13.36	3.23	3.22	8.11	8.06
12-Jan-23	80	50	7.10	6.98	18.05	13.24	4.37	4.36	8.13	8.09
13-Jan-23	80	50	7.12	7.03	20.00	14.70	4.48	4.45	6.92	6.88
14-Jan-23	80	50	7.14	7.09	12.86	10.57	4.04	4.04	6.73	6.71
15-Jan-23	80	50	7.69	7.59	8.35	7.37	- <sup>[2]</sup>	- <sup>[2]</sup>	9.08	9.01
16-Jan-23	80	50	9.67	9.59	16.61	13.59	- <sup>[2]</sup>	- <sup>[2]</sup>	9.97	9.94
17-Jan-23	80	50	8.97	8.92	19.77	15.41	- <sup>[2]</sup>	- <sup>[2]</sup>	8.11	8.10
18-Jan-23	80	50	8.79	8.64	17.33	13.53	3.92	3.87	8.62	8.59

Date	TSP	PM10	Woolloongabba		Albert		Boggo Road		Northern Portal	
	Project Goal <sup>[1]</sup>	Project Goal	TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
	(µg/m <sup>3</sup> /24 hr)									
19-Jan-23	80	50	10.33	10.12	16.94	12.99	5.31	5.30	8.86	8.81
20-Jan-23	80	50	10.15	9.94	15.80	13.01	5.35	5.31	8.77	8.73
21-Jan-23	80	50	7.82	7.74	15.13	12.37	3.56	3.54	8.33	8.30
22-Jan-23	80	50	7.01	6.86	8.50	7.81	5.42	5.42	7.00	6.99
23-Jan-23	80	50	9.79	9.49	15.85	12.16	- <sup>[2]</sup>	- <sup>[2]</sup>	8.13	8.07
24-Jan-23	80	50	9.03	8.82	13.22	10.49	4.82	4.77	6.70	6.67
25-Jan-23	80	50	11.52	11.36	12.08	10.19	7.70	7.69	10.24	10.21
26-Jan-23	80	50	11.67	11.56	10.29	9.41	8.16	8.15	13.44	13.41
27-Jan-23	80	50	11.41	11.12	16.11	12.37	3.98	3.92	10.72	10.67
28-Jan-23	80	50	10.90	10.69	10.37	8.53	- <sup>[2]</sup>	- <sup>[2]</sup>	10.01	9.97
29-Jan-23	80	50	7.15	7.07	7.07	6.46	- <sup>[2]</sup>	- <sup>[2]</sup>	6.09	6.08
30-Jan-23	80	50	8.55	8.30	12.17	9.33	5.14	5.13	7.64	7.60
31-Jan-23	80	50	10.89	10.68	12.93	10.34	7.93	7.91	10.03	9.97

[1] Project works must aim to achieve construction air quality goals. The Coordinator-General Change Report – Whole of Project Refinements 2019 acknowledges instances exist that these goals may not be achieved.

[2] The Boggo Road air quality unit experienced technical difficulties intermittently in January. As soon as practicable, the unit was inspected, and the problem was resolved. A nearby (South Brisbane) DES Air Quality Station demonstrated compliant air quality during this outage period. These results are provided below. Low levels were also consistently monitored throughout the month when the unit was operating.



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: **31 µg/m<sup>3</sup>/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=cbd&parameter=18&date=1/1/2023&timeframe=month>)
- South Brisbane: PM10 daily Maximum average: **26.1 µg/m<sup>3</sup>/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=sbr&parameter=18&date=1/1/2023&timeframe=month>)
- Woolloongabba: PM10 daily Maximum average: **27.7 µg/m<sup>3</sup>/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=woo&parameter=18&date=1/1/2023&timeframe=month>).

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

# Particle PM<sub>10</sub> at Brisbane CBD, 1–31 January 2023 [about Particle PM<sub>10</sub>](#)

[Brisbane CBD station overview](#)

The guideline for Particle PM<sub>10</sub> is 100µg/m<sup>3</sup> (1hr avg) and 50µg/m<sup>3</sup> (24hr avg).

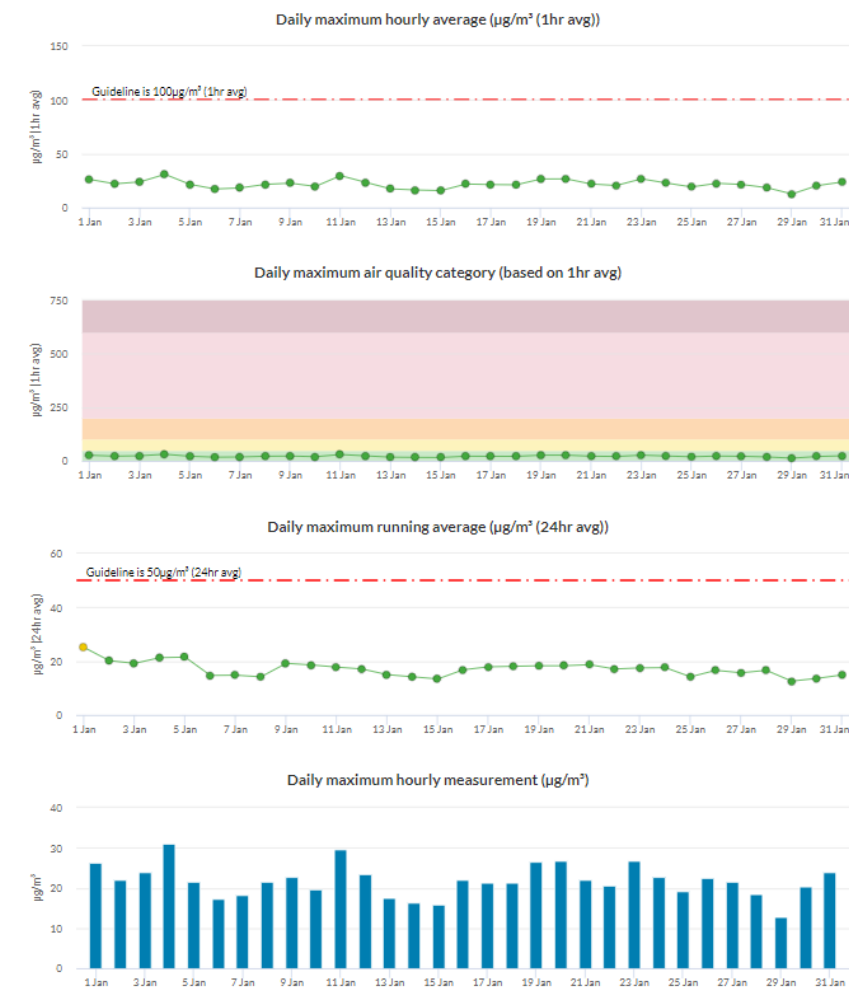


Figure 1: Brisbane CBD – DES Station - PM10 graph for January 2023 (reproduction from the DES website).

# Particle PM<sub>10</sub> at South Brisbane, 1–31 January 2023 [about Particle PM<sub>10</sub>](#)

[South Brisbane station overview](#)

The guideline for Particle PM<sub>10</sub> is 100µg/m<sup>3</sup> (1hr avg) and 50µg/m<sup>3</sup> (24hr avg).

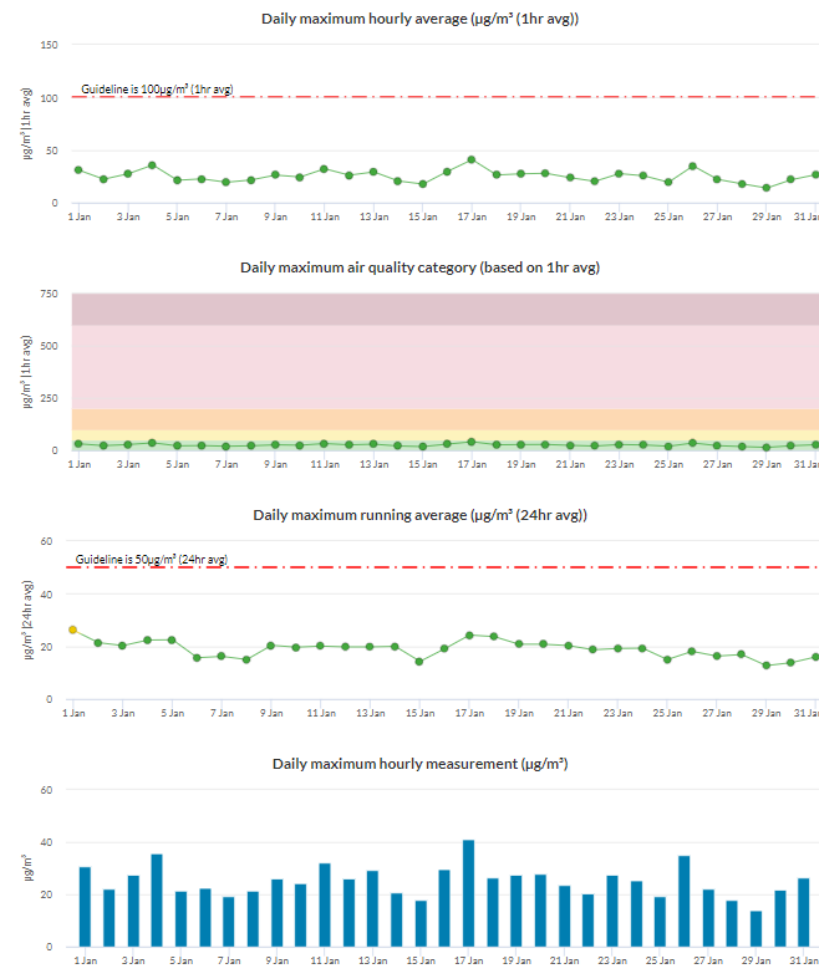


Figure 2: South Brisbane – DES Station - PM10 graph for January 2023 (reproduction from the DES website).

### Particle PM<sub>10</sub> at Woolloongabba, 1-31 January 2023 [about Particle PM<sub>10</sub>](#)

[Woolloongabba station overview](#)

The guideline for Particle PM<sub>10</sub> is 100µg/m<sup>3</sup> (1hr avg) and 50µg/m<sup>3</sup> (24hr avg).

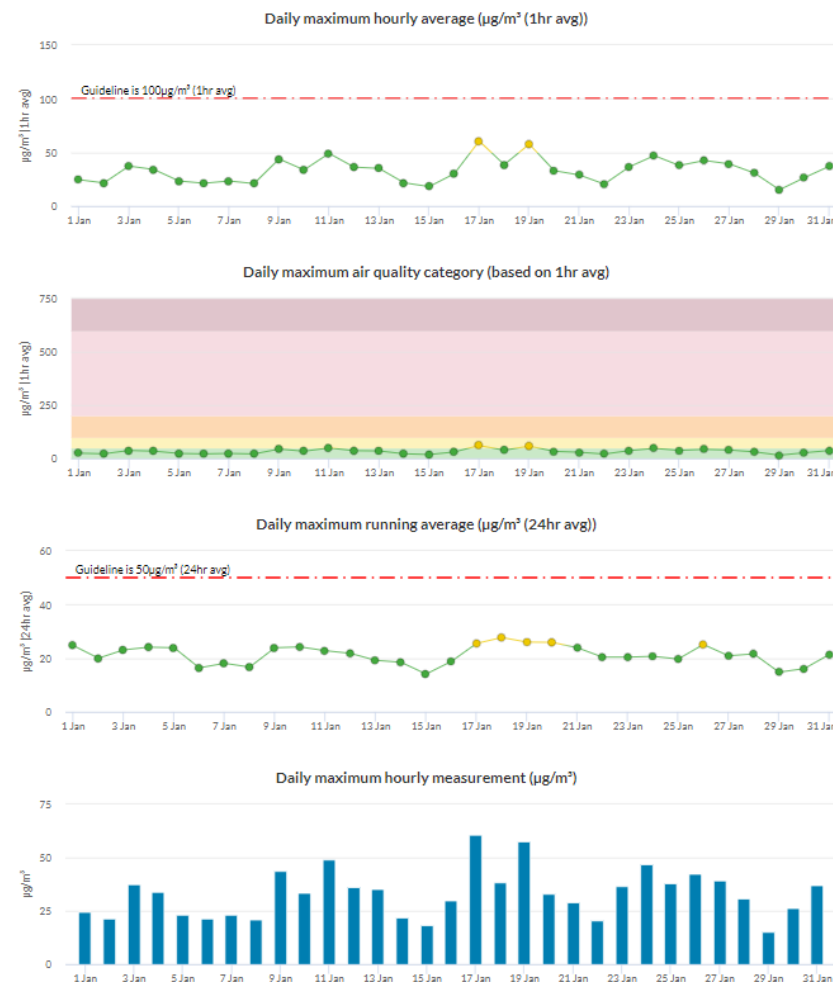


Figure 3: Woolloongabba – DES Station - PM10 graph for January 2023 (reproduction from the DES website).

### 3.4 Water Quality – Discharge

CBGU undertook four (4) water quality monitoring events prior to 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 <sup>[1]</sup>											Adhered to Project Requirements (Yes / No)
		pH	Suspended solids (mg/L)	Turbidity (NTU)	Ammonia N (µg/L) <sup>[3]</sup>	Oxidised N (µg/L) <sup>[3]</sup>	Organic N (µg/L) <sup>[3]</sup>	Total nitrogen (µg/L) <sup>[4]</sup>	Total phosphorus (µg/L)	Filterable Reactive phosphorus (µg/L) <sup>[3]</sup>	Chlorophyll a (µg/L)	Dissolved oxygen (%) <sup>[2]</sup>	
Roma Street	05/01/2023	7.56	<5	0.50	110	550	400	1000	690	<10	<1	90.61	Yes
Albert Street	12/01/2023	7.92	<5	0.27	130	880	300	1300	280	190	<1	58.09	Yes
Woolloongabba	13/01/2023	7.96	<5	1.39	40	660	500	1200	<10	<10	<1	91.81	Yes
Boggo Road	16/01/2023	7.80	<5	3.20	20	1170	400	1600	<10	<10	<1	94.40	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 prior to 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.
- 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 <sup>[1]</sup>		Adhered to Project Requirements (Yes / No)
			pH	Turbidity (NTU)	
1.	Northern Portal	1/01/2023	8.30	3.24	Yes
2.	Northern Portal	2/01/2023	8.22	1.00	Yes
3.	Northern Portal	3/01/2023	8.23	4.18	Yes
4.	Northern Portal	4/01/2023	8.19	0.98	Yes
5.	Northern Portal	5/01/2023	8.32	17.68	Yes
6.	Northern Portal	6/01/2023	8.28	15.42	Yes
7.	Northern Portal	7/01/2023	8.28	4.81	Yes
8.	Northern Portal	9/01/2023	8.37	4.20	Yes
9.	Northern Portal	10/01/2023	8.15	39.80	Yes
10.	Northern Portal	11/01/2023	8.12	10.76	Yes
11.	Northern Portal	12/01/2023	8.16	16.87	Yes
12.	Southern Portal	25/01/2023	7.23	13.80	Yes
13.	Northern Portal	13/01/2023	7.85	17.82	Yes
14.	Northern Portal	14/01/2023	8.14	4.39	Yes
15.	Northern Portal	16/01/2023	8.20	1.22	Yes

16.	Northern Portal	17/01/2023	8.13	2.10	Yes
17.	Northern Portal	18/01/2023	8.13	1.21	Yes
18.	Northern Portal	19/01/2023	8.25	2.23	Yes
19.	Northern Portal	21/01/2023	8.30	4.91	Yes
20.	Northern Portal	23/01/2023	8.16	2.02	Yes
21.	Northern Portal	25/01/2023	8.21	20.30	Yes
22.	Northern Portal	27/01/2023	7.85	8.98	Yes
23.	Northern Portal	28/01/2023	8.11	3.14	Yes
24.	Northern Portal	30/01/2023	8.12	28.70	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 January 2023, CBGU JV undertook one (1) round of surface water sampling at five (5) site locations (upstream and downstream). A rain event that occurred on the 4<sup>th</sup> of January triggered post-rainfall sampling at all precincts.

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
Woolloongabba	Upstream	5/01/2023	Monthly/Post rain	6.44	40800	73.70	7.63
Woolloongabba	Downstream	5/01/2023	Monthly/Post rain	21.90	24100	80.32	7.69
Boggo Road <sup>[1]</sup>	Downstream	5/01/2023	Monthly/Post rain	53.90	565	77.17	7.32
Northern Portal	Upstream	5/01/2023	Monthly/Post rain	23	513	70.72	7.97
Northern Portal	Downstream	5/01/2023	Monthly/Post rain	61.3	232	63.52	7.2
Roma Street	Upstream	5/01/2023	Monthly/Post rain	10.71	36600	68.8	7.53
Roma Street	Downstream	5/01/2023	Monthly/Post rain	6.42	36500	68.8	7.53
Albert Street	Upstream	5/01/2023	Monthly/Post rain	6.41	41500	75.05	7.74
Albert Street	Downstream	5/01/2023	Monthly/Post rain	5.68	47900	100.46	7.73

- [1] Monitoring at the Boggo Rd site occurs at a pipe outlet at the beginning of the surface catchment. There is no upstream/downstream monitoring point as such. The pipe 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
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Nil

## 5 Complaints

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

During January 2023, four (4) 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.	13/01/2023	Albert Street (Albert Street Precinct)	Noise	<p>A stakeholder contacted the project regarding noise generated from the Albert Street Worksite during extended work hours. 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 ensure compliance.</p> <p>CBGU reviewed the circumstances and monitoring confirmed works adhered to the project's noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
2.	16/01/2023	Roma Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the project regarding noise generated from the Roma Street Worksite during extended work hours. 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 ensure compliance.</p> <p>CBGU reviewed the circumstances and monitoring confirmed works adhered to the project's noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
3.	28/01/2023	Parkland Boulevard (Roma Street Precinct)	Noise	<p>A stakeholder contacted the project regarding noise generated from the Roma Street Worksite during extended work hours. 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 ensure compliance.</p> <p>CBGU reviewed the circumstances and monitoring confirmed works adhered to the project's noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
4.	31/01/2023	Railway Terrace (Southern Area)	Noise & Construction Duration	<p>A stakeholder contacted the project regarding the project's construction hours. 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 ensure compliance.</p>	Closed