



# Cross River Rail Project

Monthly Environmental Report

September 2023

# Table of Contents

<b>Monthly Environmental Report .....</b>	<b>1</b>
Executive Summary.....	3
Non-Compliance Events.....	7
Definitions .....	8
<b>1. Introduction .....</b>	<b>9</b>
1.1. Background .....	9
1.2. Project Delivery .....	9
1.3. Reporting Framework .....	11
1.4. Monthly Environment Report Endorsement .....	11
<b>2. Compliance Review .....</b>	<b>11</b>
2.1. Relevant Project Works.....	11
2.2. Key Environmental Elements .....	13
2.2.1. Noise.....	13
2.2.2. Vibration.....	14
2.2.3. Air Quality.....	14
2.2.4. Water Quality.....	16
2.2.5. Erosion and Sediment Control .....	18
2.3. Complaints Management.....	19
2.4. New Upcoming Project Works .....	20
2.5. Non-Compliance Events .....	22
<b>Appendix A RIS Monthly Report.....</b>	<b>23</b>
<b>Appendix B TSD Monthly Report.....</b>	<b>24</b>

# Executive Summary

This Monthly Environmental Report (MER) has been produced for Project Works undertaken on site for September 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 Event (NCE) were reported in September 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 undertaken to validate predicted noise modelling. Refer to <b>Appendix A</b> (Table 4 and Section 3.1.6).  TSD – Noise monitoring was undertaken to validate predicted noise modelling and monitoring at sensitive places. Noise monitoring confirmed project requirements were met. Refer to <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 was undertaken to validate predicted vibration modelling. The results met the requirements of the endorsed CEMP. Refer to <b>Appendix A</b> (Table 5 and section 3.1.7)  TSD – Vibration monitoring was undertaken to validate predicted vibration modelling. The results met the requirements of the endorsed CEMP. Refer to <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 September 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 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 3.1.11, plus Figures 1, 2, 3, 4 and 5).</p> <p>TSD – Contractor confirmed they continued to meet the requirements under Condition 13 and the OEMP. Refer to <b>Appendix B</b> (Tables 4.2.2, 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 September 2023.</p> <p>Post rainfall and surface water discharge monitoring was not triggered as per Condition 15(b) and Condition 18.</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</p>

			<p>quality levels. Refer to <b>Appendix B</b> (Table 6) for groundwater monitoring results.</p> <p>Surface water discharges occurred at the Northern Portal. The monitoring results demonstrated surface water discharges met project water quality discharge criteria. Refer to <b>Appendix B</b> (Table 7) for surface water monitoring results.</p> <p>Routine surface water monitoring occurred across TSD project sites. Refer to Appendix B (Section 3.5 and Table 8) for further details.</p>
16.	<p><b>Water resources</b> – Evaluate potential impact, plan works, implement controls and monitor inflow of groundwater associated with drawdown.</p>	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.	<p><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.</p>	Yes	<p>Contractors continue to consider this condition in their site planning and design.</p>
18.	<p><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.</p>	Yes	<p>Site specific ESC plans for all active work sites have been reviewed by the EM and implemented on site.</p>
19.	<p><b>Acid sulfate soils</b> – managed as per the Queensland Acid Sulfate Soil Technical Manual.</p>	Yes	<p>Acid Sulfate Soil Management Plans have been prepared and implemented for all active worksites.</p>

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 July 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.	N/A	N/A

## Non-Compliance Events

There were no NCE raised in September 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.

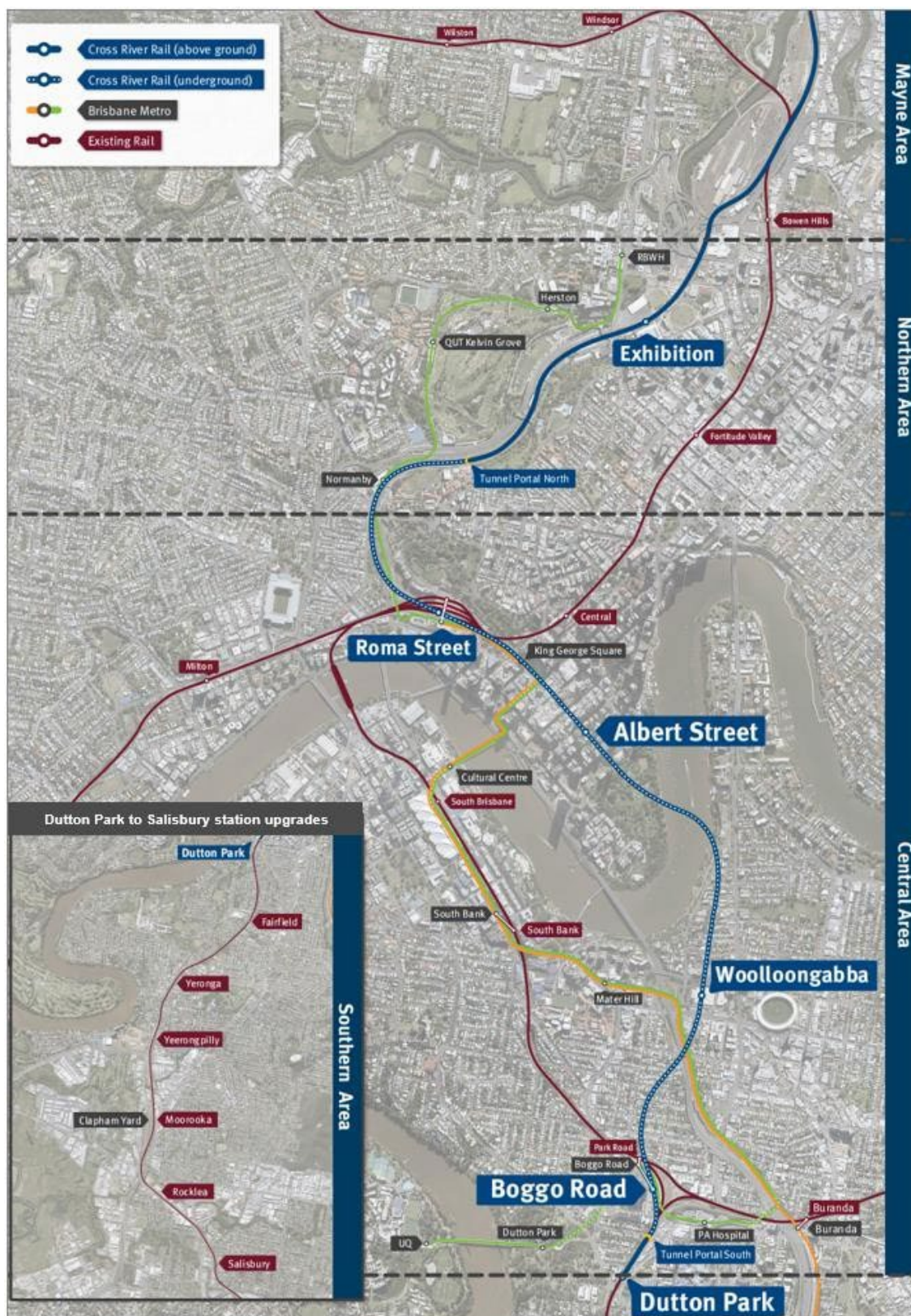
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

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



### 1.3. Reporting Framework

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

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

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

### 1.4. Monthly Environment Report Endorsement

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

## 2. Compliance Review

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

### 2.1. Relevant Project Works

The following Project Works were undertaken in September 2023:

Area	Project Works
Mayne Area	<b>Mayne Yard North –</b> <ul style="list-style-type: none"><li>• Stab Yard Fence nearing completion; and</li><li>• BR08 piling of Pier 5 completed.</li></ul> <b>Mayne Yard East / West –</b> <ul style="list-style-type: none"><li>• OHW Foundations commenced;</li><li>• CSR, drainage and bulk earthworks for HV access Rd;</li><li>• Mayne Yard East CSR, hydraulics and bulk earthworks ongoing; and</li><li>• BR12 epoxy flooring and lighting and CCTV.</li></ul>
Northern Area	<b>RNA/ Northern Corridor –</b> <ul style="list-style-type: none"><li>• Platform FRP steel fixing prep; and</li><li>• Plaza area underground services and slab prep.</li></ul> <b>Northern Portal –</b> <ul style="list-style-type: none"><li>• Works are ongoing; and</li><li>• Works area expanded towards the south of the area as progress with the CSR and services works progress.</li></ul>
Central Area	<b>Roma Street –</b> <ul style="list-style-type: none"><li>• Main Station Building Entry roof slab complete, service installation progressing B4 through L2 and RA3; and pavilion slab progressing;</li><li>• M&amp;E building roof slab complete, Services installation and fit-out progressing, HV transformers installed and connection works progressing; and</li><li>• Cavern Precast Platform slabs and in-situ slab completed, back of House East and West services installation continues in RIS rooms.</li></ul> <b>Albert Street –</b> <ul style="list-style-type: none"><li>• Lot 1 – slip cycles to ground level work ongoing 15 of 17 slip cycles, ongoing internal jump form works with 3 of 12 jumps to L0, and completed internal walls on B9;</li><li>• Lot 2 – platform culverts ongoing including topping slab works; mezzanine works completed, AS1 internal walls are complete; and</li></ul>

	<ul style="list-style-type: none"> <li>Lot 3 – Demolition works at the front of site targeting L0, and continuing internal wall and perimeter wall FRP works (L0-L1).</li> </ul> <p><b>Woolloongabba –</b></p> <ul style="list-style-type: none"> <li>External wall pours continue to progress for Station walls SW3, SW4 and SW5;</li> <li>Blockwork to Southern and Northern Cavern Back of House ongoing;</li> <li>ME/Building Services ongoing on B9, B8, B7, B6, B4 &amp; B3. HV and LV rooms are being progressed with cabling and terminations;</li> <li>ME/Building Services ongoing in Southern Cavern Back of House and platform culverts;</li> <li>Goods Lift 1 installed and operational, goods lift 2 in construction; and</li> <li>Precast beams installation commenced on B2 South.</li> </ul> <p><b>Tunnel fit-out –</b></p> <ul style="list-style-type: none"> <li>BR2G MC01 installation of leaky feeder cabling completed, walkway install ongoing;</li> <li>G2A MC01 and MC02 raised emergency access and egress walkway installation is ongoing and LV cable pulling has commenced;</li> <li>A2R MC01 and MC02 rising Main Pipe install ongoing and walkway installation ongoing;</li> <li>R2NP MC01 and MC02 Leaky feeder cabling has been installed and LV cable pulling ongoing; and</li> <li>Ongoing M&amp;E fit-out works in the cross passages.</li> </ul> <p><b>Boggo Road –</b></p> <ul style="list-style-type: none"> <li>Concrete to insitu structure 85% complete;</li> <li>Reinforcement to insitu structure 86% complete;</li> <li>Mezzanine precast trusses - 230 of 230 installed;</li> <li>Precast platform culverts and planks – 457 of 461 installed;</li> <li>Super Ts – 39 of 39 installed;</li> <li>Goods Lift 2 commissioned and operational;</li> <li>M&amp;E fit-out continuing in northern and southern Back of House;</li> <li>Hydrants installed to B7; and</li> <li>Services install to under platform continuing;</li> </ul> <p><b>Southern Portal –</b></p> <ul style="list-style-type: none"> <li>Commenced HV traction power conduit install within rail corridor;</li> <li>Continue FRP works to Eastern and Western approach substructures;</li> <li>Continued Eastern Approach Bridge Girder installation;</li> <li>Completed Western Approach Bridge Girder delivery and installation; and</li> <li>Completed Freight flyover (FFO) footing void penetration.</li> </ul>
<b>Southern Area</b>	<p><b>Southern / Dutton Park –</b></p> <ul style="list-style-type: none"> <li>Progressed work on PL1, PL2, Kent St entry, and Noble St entry; and</li> <li>Predominately structural foundations, piling, inground services, platform slabs, structural steel, roofing.</li> </ul> <p><b>Fairfield station –</b></p> <ul style="list-style-type: none"> <li>Hard and soft Landscaping works;</li> <li>Energisation of downstream boards and electrical assets; and</li> <li>Complete lift construction.</li> </ul> <p><b>Yeronga station –</b></p> <ul style="list-style-type: none"> <li>Completion and certification of the station remains ongoing.</li> </ul> <p><b>Clapham Yard –</b></p> <ul style="list-style-type: none"> <li>Moolabin Creek Bridge Maintenance Access Walkway installation;</li> <li>Civil Works;</li> <li>Bridge 94 Span 1 girders installed;</li> <li>Aurizon Fence nearing completion and drainage commenced;</li> <li>OHLE foundation and structure install; and</li> <li>Works continue for civil, structural and rail infrastructure.</li> </ul>

#### Rocklea station –

- Installation of structural steel elements and roofing (lift 1, platform canopies);
- Installation of platform coping and tactile; and
- Progress final platform slabs and entry slabs on Brookes St / Station St.

## 2.2. Key Environmental Elements

### 2.2.1. Noise

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

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

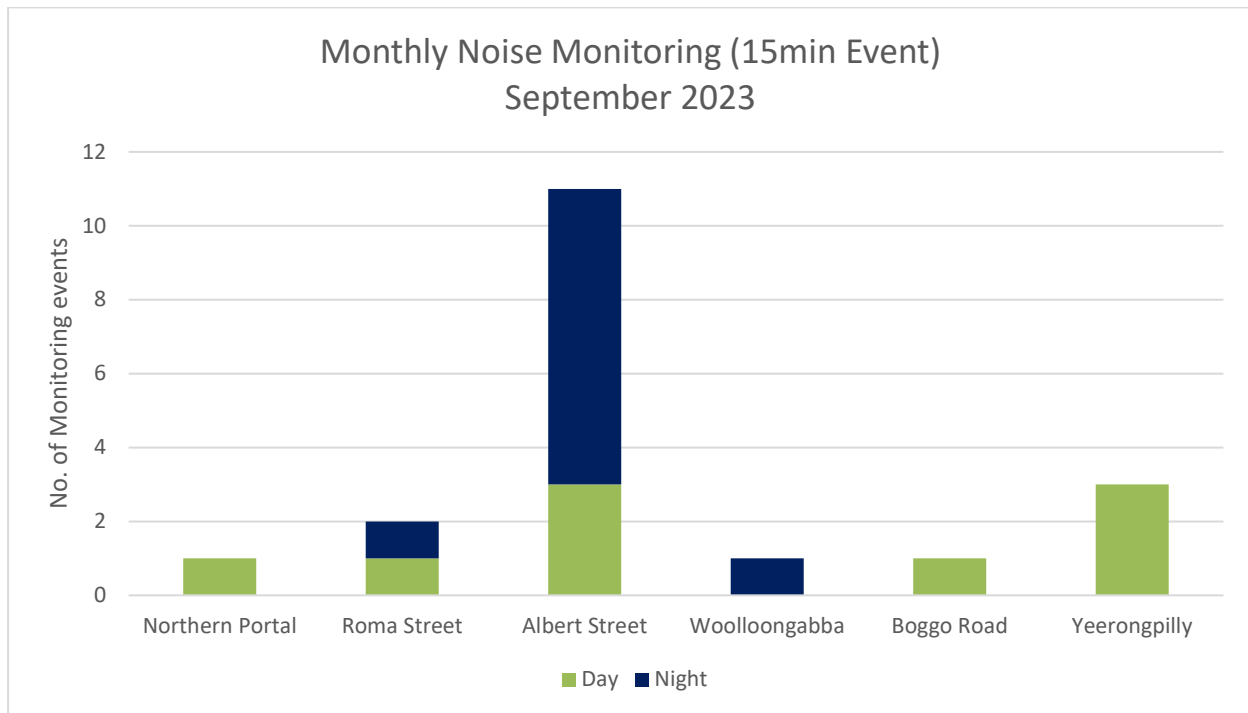
Where internal monitoring was not possible, contractors have undertaken external monitoring at nominated locations. To assess external monitoring and determine compliance with the project's noise requirements, the project applies recommended façade attenuation corrections, which considers receiver property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

In the Northern Area, noise monitoring was undertaken for construction monitoring at sensitive places at Northern Portal. The TSD contractors reported that the project noise management requirements have been met during the reporting period. Monitoring results for the Northern Area are detailed in **Appendix B** (Table 3).

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

In the Southern Area, noise monitoring was undertaken for model verification at Yeerongpilly station during the commencement of the station demolition SCAS works. The RIS contractor reported that project noise management requirements have been met including advance notification and consultation with DAPs. Monitoring results for the Southern Area are detailed in **Appendix A** (Table 4).

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



### 2.2.2. Vibration

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

In the Central Area, vibration monitoring occurred at Boggo Road and Albert Street. Vibration monitoring adhered to the project requirements and is detailed in **Appendix B** (Table 2).

### 2.2.3. Air Quality

#### 2.2.3.1. Dust Deposition

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

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

Air Quality – Dust Deposition Monitoring			
Area	Worksite	Monitoring Location	Comments
Mayne Area	Mayne Yard	Mayne Yard East	- Results met air quality goal
Northern Area	RNA / Exhibition	RNA Showgrounds	- Results met air quality goal
	Northern Portal	Northern Portal (near Brisbane Girls Grammar School)	- Results met air quality goal
Central Area	Albert Street	Mary Street	- Results met air quality goal
		Elizabeth Street	- Results met air quality goal

	Boggo Road	Quarry Street (north of the site)	- Results met air quality goal
		Peter Doherty Street/Leukemia Foundation	- Results met air quality goal
	Southern Portal	Dutton Park station	- Results met air quality goal
		PA Hospital - Central Energy Unit along Kent Street	- Results met air quality goal
	Roma Street	Roma Street station	- Results met air quality goal
	Woolloongabba	Russian Orthodox Cathedral	- Results met air quality goal
		Woolloongabba Busway	- Results met air quality goal
<b>Southern Area</b>	Dutton Park	Dutton Park	- Results met air quality goal
	Clapham Yard	Clapham Yard	- Results met 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 (PM10) and total suspended particulates (TSP) was conducted at Northern, Central and Southern Area worksites for portions of the reporting period. Results obtained met the project goals at all active worksites.

In the Mayne Area, the Dust Monitor Pro (DMP) was returned to site in a new location advised by UNITY's Certified Air Quality Professional (CAQP) as the original location was no longer viable due to new site constraints. However, due to mechanical and technical issues relating to power supply, connection errors and air inlets, there were 0 days within the reporting period that recorded a sufficient volume of data (minimum 18 hours or 75% over a 24-hour period) to be considered valid.

In the absence of monitoring data, UNITY undertook an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP. This consisted of investigating the scope of works, meteorological conditions, site observations and complaints received. The investigation confirmed that UNITY's scope of works and implementation of their Air Quality Management Plan has met the project outcomes. Refer to **Appendix A** (Figure 4 and section 3.1.11.2). The Northern Portal air quality monitoring unit experienced technical difficulties from 5 – 30 September 2023 and required the unit to be sent to the manufacturer for repair. Refer to **Appendix B** (Table 5 and Section 3.3.2).

In the Northern Area, the RNA monitor was removed from site on 7 September 2023 for its annual calibration. Refer to **Appendix A** (Section 3.1.11.4).

Unity are obtaining rental devices to provide coverage when these extended faults or service outages are experienced.

In the Central Area, the TSD contractor confirmed that the Boggo Road air quality monitoring unit experienced technical difficulties between 1 – 10 and 28 September 2023 and was also required to be sent to the manufacturer for repair. The nearby (Woolloongabba) DES air quality monitoring station confirmed air quality levels were below the air quality goals during these outage periods. Refer to **Appendix B** (Table 5 and Section 3.3.2).

In the Southern Area, the Clapham Yard DMP was found to be set up to record PM<sub>10</sub> only. Additional analysis is required to calculate TSP data which was in progress and will be included in the October 2023 Report. In the absence of TSP monitoring data at Clapham Yard, UNITY undertook an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP. This consisted of investigating the scope of works, meteorological conditions, site observations and complaints received. The investigation confirmed that UNITY's scope of works and implementation of their Air Quality Management Plan has met the project outcomes. Refer to **Appendix A** (Figure 5 and section 3.1.11.3).

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

Air Quality – PM <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	- DMP reinstated onsite, however experienced mechanical and technical difficulties recording no valid data. - Investigation into supplementary information confirmed the Project outcomes had been met
Northern Area	RNA / Exhibition	RNA showgrounds	- Results met air quality goals. - Monitor removed from site for annual calibration on 7 September 2023.
	Northern Portal	Brisbane Girls Grammar School	- Results met air quality goals. - Technical difficulties encountered between 18 and 21 August 2023
Central Area	Albert Street	iStay River City and Capri (Corner of Mary Street and Albert Street)	- Results met air quality goals.
	Boggo Road / Southern Portal	North-east of Boggo Road worksite	- Technical difficulties encountered and monitor sent off for repair. No TSP or PM <sub>10</sub> data capture during the month. - Investigation into supplementary information confirmed the Project outcomes had been met
	Woolloongabba	Place Park, Woolloongabba	- Results met air quality goals.
Southern Area	Clapham Yard	Clapham Yard	- Results met air quality goals for PM <sub>10</sub> . TSP data to be reported on the October 2023 Report. - Investigation into supplementary information confirmed the Project outcomes had been met

## 2.2.4. Water Quality

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

### 2.2.4.1. Surface Water

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

In the Northern Area, active surface water discharge monitoring occurred on twenty-one (21) occasions at Northern Portal. The monitoring results demonstrated active surface water discharges met project water quality discharge criteria. Refer to **Appendix B** (Table 7) for further details.

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

Surface water quality monitoring is summarised in the table below:

Surface Water Quality Monitoring					
Area	Worksite	Discharge	Post-Rain Monitoring	Routine Monitoring	Comments
Mayne Area	Mayne Yard North	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	No	Yes	- Active surface water discharge met water quality investigation criteria. - Routine in-stream monitoring undertaken in accordance with WQMP
	Northern Corridor	No	No	N/A	- ESC was implemented in accordance with site specific ESC Plan.
Central Area	Albert Street	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP
	Boggo Road	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP.
	Roma Street	No	No	Yes	- Routine in-stream routine monitoring undertaken in accordance with WQMP.
	Woolloongabba	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP.
	Southern Portal	No	No	Yes	- Routine in-stream monitoring undertaken in accordance with WQMP.
Southern Area	Dutton Park	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Fairfield station	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.

	Yeronga	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Clapham Yard	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Rocklea station	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.

#### 2.2.4.2. Groundwater

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

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

Groundwater quality monitoring is summarised in the table below:

Groundwater Quality Monitoring			
Area	Worksite	Discharge	Comments
<b>Mayne Area</b>	Mayne Yard North	No	- No groundwater discharges.
<b>Northern Area</b>	RNA/Exhibition	No	- No groundwater discharges.
	Northern Portal	No	- No groundwater discharges.
<b>Central Area</b>	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
<b>Southern Area</b>	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, RNA Showgrounds, Northern Portal, Normanby, Roma Street, Albert Street, Woolloongabba, Boggo Road, Southern Portal, Dutton Park, Fairfield, Yeronga, Yeerongpilly, Clapham Yard, and Rocklea worksites.

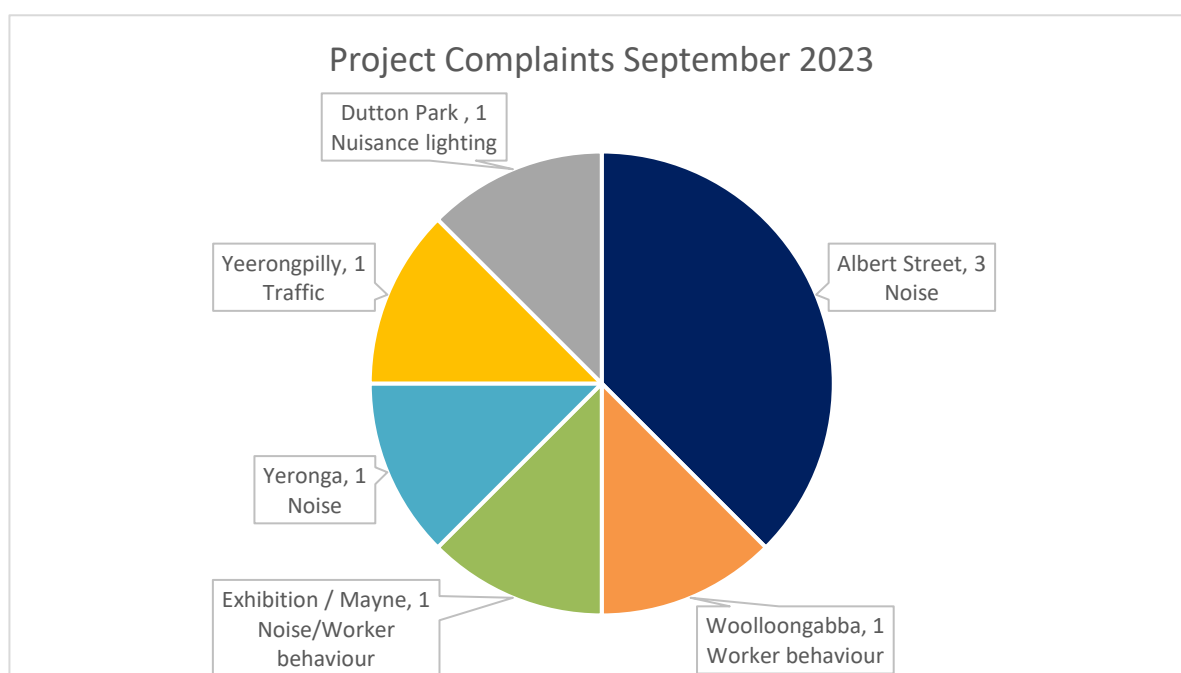
## 2.3. Complaints Management

A total of nine (9) complaints were received during the month, of which eight (8) were project related.

RIS works received four (4) complaints during September 2023 relating to noise/worker behaviour at Exhibition, nuisance lighting at Dutton Park, traffic at Yeerongpilly and noise at Yeronga. For further details and breakdown of complaints, refer to **Appendix A** (Table 3).

TSD works received four (4) project related complaints, three (3) related to noise at Albert Street and one (1) related to worker behaviour at Woolloongabba. For further details and a breakdown of complaints, refer to **Appendix B** (Table 10).

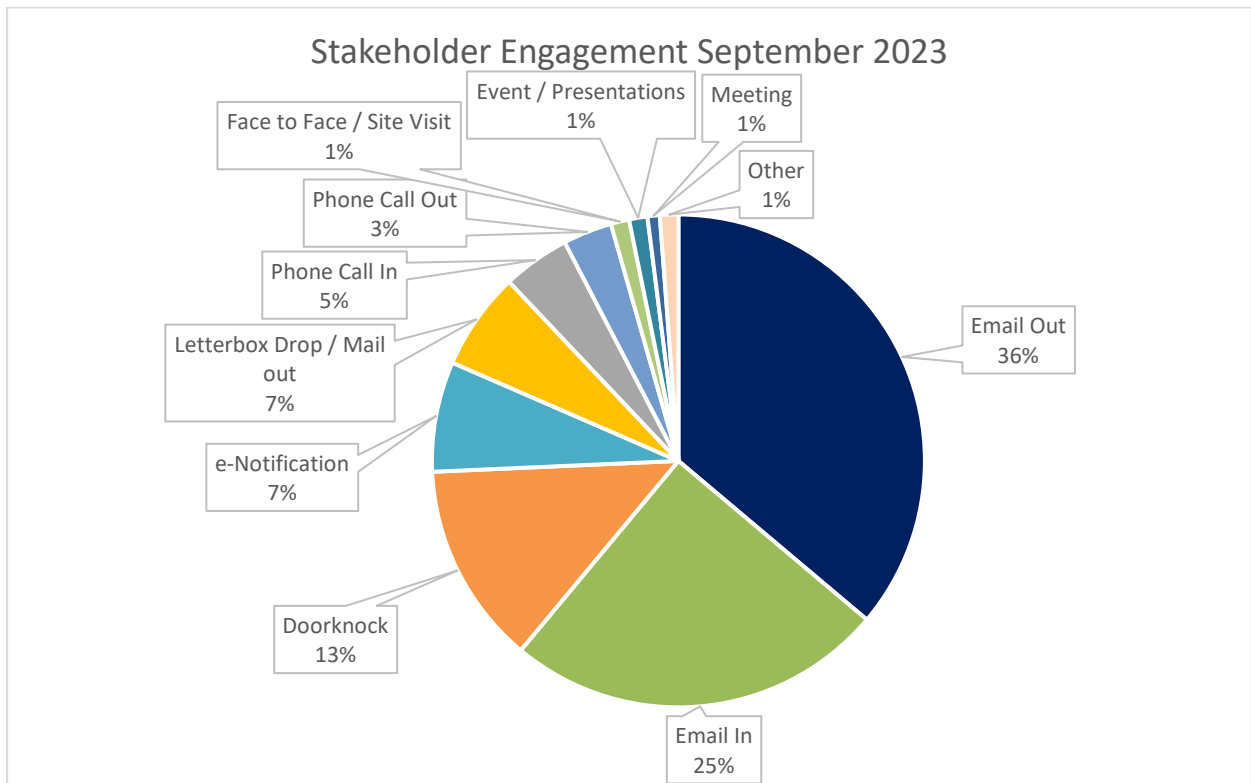
The Project Works complaints summary for the month is provided in the following chart.



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

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

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



## 2.4. New Upcoming Project Works

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

Area	New planned works in the coming months
<b>Mayne Area</b>	<p><b>Mayne Yard North –</b></p> <ul style="list-style-type: none"> <li>Complete stabling yard fence rectification and path modifications in RIS-58 (in T&amp;C by 20-Oct);</li> <li>Span 2 (P2-P3) girders;</li> <li>BR08 piling of Pier 1 (post surcharge load release);</li> <li>Commence MY-North SMAR;</li> <li>Commence Stab Yard Fence on Tripod BR11/13 structure (MY-N); and</li> <li>Gator Shed, Training facilities and Workshop FRP and Structural Steel.</li> </ul> <p><b>Mayne Yard East / West –</b></p> <ul style="list-style-type: none"> <li>RIS-7A.1 (Western Yard facility Roads 37 – 40) Platform modifications and asphalt paths pending (awaiting QR access permission);</li> <li>RIS-6C.2 (QR Access Change), pavements and light pole foundations, continue drainage, CSR and TFR, fire water and sewer;</li> <li>N-18 (MY-E Shunter Shed) services and finishing trades;</li> <li>Axillary Buildings commence FRP;</li> <li>Submain cabling route site measurements; and</li> <li>Submain installation.</li> </ul>
<b>Northern Area</b>	<p><b>RNA / Exhibition –</b></p> <ul style="list-style-type: none"> <li>Pier 8 and 9 FRP;</li> <li>BR44 FRP Span 1-6; and</li> <li>Structural steel.</li> </ul> <p><b>Northern Corridor –</b></p> <ul style="list-style-type: none"> <li>Sub 42 footings and conduits installation;</li> <li>ROS installation continuing;</li> <li>Earth grid completion;</li> <li>Traction power cable hauling; and</li> <li>TFR pit Earthing &amp; cable Support structure installation.</li> </ul>

	<p><b>Northern Portal –</b></p> <ul style="list-style-type: none"> <li>Ongoing handover the site from TSD to RIS.</li> </ul>
Central Area	<p><b>Roma Street –</b></p> <ul style="list-style-type: none"> <li>Cavern escalator installation;</li> <li>Mezzanine services and installation and fit-out;</li> <li>Station box B4 partition walls, fan core units and fit out installation;</li> <li>Station box B2 to B4 service installation;</li> <li>Station building pavilion excavation of pile caps and capping beam construction; and</li> <li>M&amp;E Services Building B1 to B4 service installation &amp; cable tray installation and L3.5 chimney construction.</li> </ul> <p><b>Albert Street –</b></p> <ul style="list-style-type: none"> <li>Lot 1 – slip form FRP works ongoing and complete B7 suspended slab;</li> <li>Lot 2 – commence platform side mass fill works, complete XPER RIS Room and commence installation of escalators; and</li> <li>Lot 3 – complete final ground slab pours and commence structural steel installation.</li> </ul> <p><b>Woolloongabba –</b></p> <ul style="list-style-type: none"> <li>TVS fan installation;</li> <li>Delivery of 2x more escalators on site;</li> <li>Hand back of RMU rooms to Energex planned for September;</li> <li>CER blockwork and Platform screen door frame installation in Northern cavern;</li> <li>Platform screen door steel support install in Southern cavern; and</li> <li>Mezzanine span 7 installation to commence in October.</li> </ul> <p><b>Boggo Road –</b></p> <ul style="list-style-type: none"> <li>Ongoing precast buttress planks and deck units installation;</li> <li>Perimeter and internal wall FRP works, including topping slab works; and</li> <li>M&amp;E fit-out continuing in the Northern and southern Back of Houses.</li> </ul> <p><b>Southern Portal –</b></p> <ul style="list-style-type: none"> <li>Rail works in open trough of the decline structure;</li> <li>Boggo Road south – last deck units to be installed;</li> <li>MC02 roof 'ski jump';</li> <li>Western and eastern abutment construction; and</li> <li>finishing works at shaft 3 and sump shaft works upcoming.</li> </ul>
Southern Area	<p><b>Southern / Dutton Park –</b></p> <ul style="list-style-type: none"> <li>RIS_S002 will see further progress of the station construction including structural steel elements, roofing, installation of overpass module (1 of 5), piling, soil nails, platform slabs, and platform walls.</li> </ul> <p><b>Fairfield Station –</b></p> <ul style="list-style-type: none"> <li>Final works completion, pro-active defect rectification;</li> <li>Final commissioning activities for ROS systems;</li> <li>Completions documentation compilation; and</li> <li>Certifier inspections and corrections.</li> </ul> <p><b>Yeronga Station –</b></p> <ul style="list-style-type: none"> <li>Final defects are ongoing and additional / changed scope due to 'D2S Improvements' POD received during September.</li> </ul> <p><b>Clapham Yard –</b></p> <ul style="list-style-type: none"> <li>Driveways and stone pitching along Fairfield Road;</li> <li>Chale Street Bridge Span 1 deck and relieving slab pours;</li> <li>Civil Works – CSR works ongoing;</li> <li>Track Works – Tamping of DG, DGL, HR1 &amp; HR2 commences when access can be arranged;</li> <li>OHW Works – Structure install recommences 24 July;</li> <li>Signalling Works – Mobilising to site mid-July; and</li> <li>Electrical / Comms – Procurement &amp; Planning stage.</li> </ul>

### Rocklea Station –

- Structural steel installation, roofing, lift shaft installation, glazing, entry area canopies

## 2.5 Non-Compliance Events

No NCEs were recorded in September 2023. A summary of NCEs to date is shown in the table below.

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

Gate 1 - EM notification to contractor. NCE confirmed

Gate 2 - 48 hour NCE notification submitted to CG

Gate 3 - 14 day report submitted

Gate 4 - 14 day report uploaded to CRR website

# Appendix A RIS Monthly Report

# **Monthly CGCR Report September 2023**

**Cross River Rail – Rail, Integration and Systems  
Alliance**

## Table of Contents

<b>1</b>	<b>Progress Summary - Relevant Project Works</b>	<b>3</b>
<b>2</b>	<b>Complaints</b>	<b>7</b>
<b>3</b>	<b>Environmental Monitoring Results</b>	<b>8</b>
	Acoustics	8
	Air Quality	11
	Water Quality	22
<b>4</b>	<b>Compliance Review</b>	<b>24</b>
	Non-Compliance Events	24
	C-EMP Compliance	24
<b>Attachment 1</b>	<b>Imposed Conditions Non-Compliance Event Report (if required)</b>	<b>26</b>
<b>Attachment 2</b>	<b>Monitoring Locations – Noise and Vibration</b>	<b>27</b>
<b>Attachment 3</b>	<b>Monitoring Locations – Air Quality</b>	<b>30</b>
<b>Attachment 4</b>	<b>Monitoring Locations – Surface Water</b>	<b>34</b>

# 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>Stab Yard Fence nearing completion.</li> <li>BR08 piling of Pier 5 completed.</li> </ul> <b>Mayne Yard East / West</b> <ul style="list-style-type: none"> <li>OHW Foundations commenced.</li> <li>CSR, drainage and bulk earthworks for HV access Rd</li> <li>Mayne Yard East CSR, hydraulics and bulk earthworks ongoing.</li> <li>BR12 epoxy flooring and lighting and CCTV.</li> </ul>
Northern Area	<b>RNA / Exhibition</b> <ul style="list-style-type: none"> <li>Platform FRP steel fixing prep</li> <li>Plaza area underground services and slab prep.</li> </ul> <b>Northern Corridor</b> <ul style="list-style-type: none"> <li>Works are ongoing</li> <li>Works area expanded towards the south of the area as progress with the CSR and services works progress.</li> </ul>
Southern Area	<b>Southern Portal / Dutton Park</b> <ul style="list-style-type: none"> <li>Progressed work on PL1, PL2, Kent St entry, and Noble St entry</li> <li>Predominately structural foundations, piling, inground services, platform slabs, structural steel, roofing.</li> </ul>
Southern Area	<b>Fairfield Station</b> <ul style="list-style-type: none"> <li>Hard and soft Landscaping works</li> <li>Energisation of downstream boards and electrical assets</li> <li>Complete lift construction.</li> </ul>
Southern Area	<b>Yeronga Station</b> <ul style="list-style-type: none"> <li>Completion and certification of the station remains ongoing.</li> </ul>
Southern Area	<b>Yeerongpilly Station</b> <ul style="list-style-type: none"> <li>Station closed on 18 Sep</li> <li>Station demolition occurred from 30 Sep during RIS-S002.</li> </ul>
Southern Area	<b>Clapham Yard</b> <ul style="list-style-type: none"> <li>Moolabin Creek Bridge Maintenance Access Walkway installation</li> <li>Civil Works</li> <li>BR94 Span 1 girders installed.</li> <li>Aurizon Fence nearing completion and Drainage commenced.</li> <li>OHW Foundation and Structure install.</li> <li>Works continue for civil, structural and rail infrastructure.</li> </ul>
Southern Area	<b>Rocklea Station</b> <ul style="list-style-type: none"> <li>Installation of structural steel elements and roofing (lift 1, platform canopies)</li> <li>Installation of platform coping and tactiles</li> <li>Progress final platform slabs and entry slabs on Brookes St / Station St.</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	<p><b>Mayne Yard North</b></p> <ul style="list-style-type: none"> <li>Complete stab yard fence rectification and path modifications in RIS-58 (in T&amp;C by 20-Oct)</li> <li>Span 2 (P2-P3) girders</li> <li>BR08 piling of Pier 1 (post surcharge load release)</li> <li>Commence MY-North SMAR</li> <li>Commence Stab Yard Fence on Tripod BR11/13 structure (MY-N)</li> <li>Gator Shed, Training facilities and Workshop FRP and Structural Steel.</li> </ul> <p><b>Mayne Yard East / West</b></p> <ul style="list-style-type: none"> <li>RIS-7A.1 (Western Yard facility Roads 37 – 40) Platform modifications and asphalt paths pending (awaiting QR access permission)</li> <li>RIS-6C.2 (QR Access Change), pavements and light pole foundations, continue drainage, CSR and TFR, fire water and sewer</li> <li>N-18 (MY-E Shunter Shed) services and finishing trades</li> <li>Axillary Buildings commence FRP</li> <li>Submain cabling route site measurements</li> <li>Submain installation.</li> </ul>
Northern Area	<p><b>RNA / Exhibition</b></p> <ul style="list-style-type: none"> <li>Pier 8 and 9 FRP</li> <li>BR44 FRP Span 1-6</li> <li>Structural steel.</li> </ul> <p><b>Northern Corridor</b></p> <ul style="list-style-type: none"> <li>Sub 42 footings and conduits installation</li> <li>ROS installation continuing</li> <li>Earth grid completion</li> <li>Traction power cable hauling</li> <li>TFR pit Earthing &amp; cable Support structure installation.</li> </ul>
Southern Area	<p><b>Southern Portal / Dutton Park</b></p> <ul style="list-style-type: none"> <li>RIS_S002 will see further progress of the station construction including structural steel elements, roofing, installation of overpass module (1 of 5), piling, soil nails, platform slabs, and platform walls.</li> </ul>
Southern Area	<p><b>Fairfield Station</b></p> <ul style="list-style-type: none"> <li>Final works completion, pro-active defect rectification</li> <li>Final commissioning activities for ROS systems</li> <li>Completions documentation compilation</li> <li>Certifier inspections and corrections.</li> </ul>
Southern Area	<p><b>Yeerongpilly</b></p> <ul style="list-style-type: none"> <li>Major SCAS (RIS-S-002) from 30/09 &gt; 06/10 to undertake demolition and track slew</li> </ul>
Southern Area	<p><b>Yeronga Station</b></p> <ul style="list-style-type: none"> <li>Final defects are ongoing and additional / changed scope due to 'D2S Improvements' POD received during September.</li> </ul>
Southern Area	<p><b>Moorooka</b></p> <ul style="list-style-type: none"> <li><b>Nil Specific</b></li> </ul>
Southern Area	<p><b>Rocklea</b></p> <ul style="list-style-type: none"> <li>Structural steel installation, roofing, lift shaft installation, glazing, entry area canopies</li> </ul>

Area	Project Works
Southern Area	<b>Clapham Yard</b> <ul style="list-style-type: none"> <li>• Driveways and stone pitching along Fairfield Road</li> <li>• Chale Street Bridge Span 1 deck and relieving slab pours</li> <li>• Civil Works – CSR works ongoing</li> <li>• Track Works – Tamping of DG, DGL, HR1 &amp; HR2 commences when access can be arranged</li> <li>• OHW Works – Structure install recommences 24 July</li> <li>• Signalling Works – Mobilising to site mid-July</li> <li>• Electrical / Comms – Procurement &amp; Planning stage.</li> </ul>
Southern Area	<b>Salisbury</b> <ul style="list-style-type: none"> <li>• Preliminary planning and procurement</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
Fri 8 Sept	Yeronga	Noise	Noise from Caravan and Generator setup	Sept	Stakeholder called with complaint about noise from QR PO caravan at Yeronga station commuter carpark (Fairfield Road).	Team advised that feedback will be passes onto the team to work group to see if exhaust noise from generator can be mitigated (e.g., noise blanket, move caravan position).	closed
Mon 11 Sept	Yeerongpilly	Traffic	Complaint about traffic related to Carpark removal	Sept	Stakeholdercomplained about the removal of on street parking on Wilkie Street, Yeerongpilly over the weekend during day shift. The stakeholder also raised issue with the interaction they had with traffic control personnel.	The traffic changes implemented over the weekend were consistent with the approved TGS. The works notice does cover off on the permanent long term no parking changes and speaks to changes to parking during our works activities. Traffic manager is addressing the workforce behaviour / traffic control interaction with members of the public. Additional information on parking restrictions will be provided in future notices and DL reminders.	closed
Sun 17 Sept	Dutton Park	Light Spill	Complaint about light spill	Sept	Stakeholder called with a complaint about light spill coming into their backyard from lighting towers at the end of Cope Street, Dutton Park.	Team contacted the site team and requested that lighting towers be faced away from residential properties and where possible raised to a height below the top of the noise barrier.	closed
Fri 22 Sept	Bowen Hills	Noise	Complaint about music from parked traffic	Sept	Stakeholder called with a complaint of workers playing loud music in the car park adjacent to their property at Tufton Street, Bowen Hills. They had just returned from hospital and the noise was disturbing their rest.	Team contacted site and requested that workforce behaviour be addressed in the pre-start and the importance of being respectful to our neighbours when arriving and leaving after each shift.	closed

### 3 Environmental Monitoring Results

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

#### Acoustics

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

##### 3.1.1 Noise Monitoring

Attended noise monitoring was undertaken to validate the predictive noise assessments for the Relevant Project Works during the reporting period at Yeerongpilly. Out of hours works was undertaken during the SCAS covering from 30 September to 6 October. This period overlaps between the September and October reporting periods as such this data is included in this report and will be carried across to the October report.

Complaint-based noise monitoring related to Project Works was not triggered during the reporting period.

##### 3.1.2 Noise Monitoring Results

Noise monitoring results are provided in the table below related to predictive modelling for the Yeerongpilly SCAS.

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
Yeerongpilly: Wilkie Street - Opposite southern carpark compound	Residential	Attended: Generator Caravan	Day time	0900 30/09/2023	Continuous	Validation of predictive monitoring	60	55 dBA internal (65 dBA external)	NA	58	56.4	Y	N	Extensive doorknocking was undertaken along Wilkie Street. Recorded noise levels did not exceed target levels associated with the works.
Yeerongpilly: Wilkie Street - Corner of Wilke and Green Street	Residential	Attended: Front end loader Vac truck Excavators Generator	Day time	1240 30/09/2023	Intermittent	Validation of predictive monitoring	60	65 dBA internal (75 dBA external)	NA	57	55.9	Y	N	Extensive doorknocking was undertaken along Wilkie Street. Recorded noise levels did not exceed target levels associated with the works.
Yeerongpilly: Wilkie Street - Between Green and Stamford Street	Residential	Attended: Front end loader Excavator Crane ADT Rail saw	Day time	1330 30/09/2023	Intermittent	Validation of predictive monitoring	66	65 dBA internal (75 dBA external)	NA	60	59.5	Y	N	Extensive doorknocking was undertaken along Wilkie Street. Recorded noise levels did not exceed target levels associated with the works.

- 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.

3.1.3 Vibration Monitoring

Vibration monitoring to validate the predictive model was triggered for:

- John MacDonald Stand based on the proximity to the works. The vibration equipment was removed at RNA request during post EKKA clean-up activities and reinstalled once allowed. The results are presented in the below Table.

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

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

3.1.4 Vibration Monitoring Results

Table 5 Summary of Vibration Data

Location	Date (Start and Finish)	Time of day	Closest DAP / Sensitive Place	Receiver Type (table 3 – Imposed Condition 11(e))	Purpose of Monitoring	Vibration intensive equipment	Maximum predicted vibration level	Shortest distance between Equipment and Sensitive Place @Time of Monitoring"	Maximum recorded vibration level	Vibration goal for receiver	Exceedance of vibration limit?	Comments
John MacDonald Stand	26/09/23-30/09/23	24hrs/7days	38m	Heritage-DIN4150 Group 1	Impact on sensitive receiver	none	1.56	38 m	0.36mm/s	3mm/s Prop damage --> Heritage	no	compliant

### 3.1.5 Interpretation

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

### 3.1.6 Noise Monitoring

The RIS scope of works continues to achieve the outcomes set out by the CGCR and OEMP. Monitoring was undertaken for Yeerongpilly to validate the noise modelling as the location is a new construction site.

### 3.1.7 Vibration Monitoring

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

Vibration monitoring was undertaken at the State Heritage listed John MacDonald Stand. Data is only available from 26 September due removal of the monitor by RNA staff during clean up post-Ekka.

No vibration intensive equipment was in use during this time at RNA.

Background monitoring of the John MacDonald Stand is ongoing.

Monitoring was set up for the Yeerongpilly SCAS during 30 September. Data records will be reported in the October report.

## Air Quality

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

Visual monitoring was undertaken during routine environmental inspections. A total of 36 inspections were undertaken by the Environment Team across Mayne Yard, RNA Showgrounds, Northern Corridor, Southern Area, Yeerongpilly, Clapham Yard, Rocklea and Salisbury 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
Dust Deposition Gauge	Mayne Yard North (Eastern Air Shed)	Mayne Yard North	26 August 2022	Active
TSP / PM <sub>10</sub> Monitor	Mayne Yard East (Eastern Air Shed)	Mayne Yard East	26 August 2022	Partially active during reporting period. Monitor was reinstated however had battery and airflow issues preventing adequate data being captured during this period

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
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	Out for calibration

### 3.1.8 Dust results

As passive dust deposition gauges (DDG) are analysed monthly, results cover the last half of August and the first half of September.

The results are detailed below and compared against Imposed Condition 13(b). All results over the monitoring period are compliant with the CGCR Goal of 120mg/m<sup>2</sup>/day.

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	37	103	17	83
Total Rainfall during Period (mm)	0	2.4	3.2	0

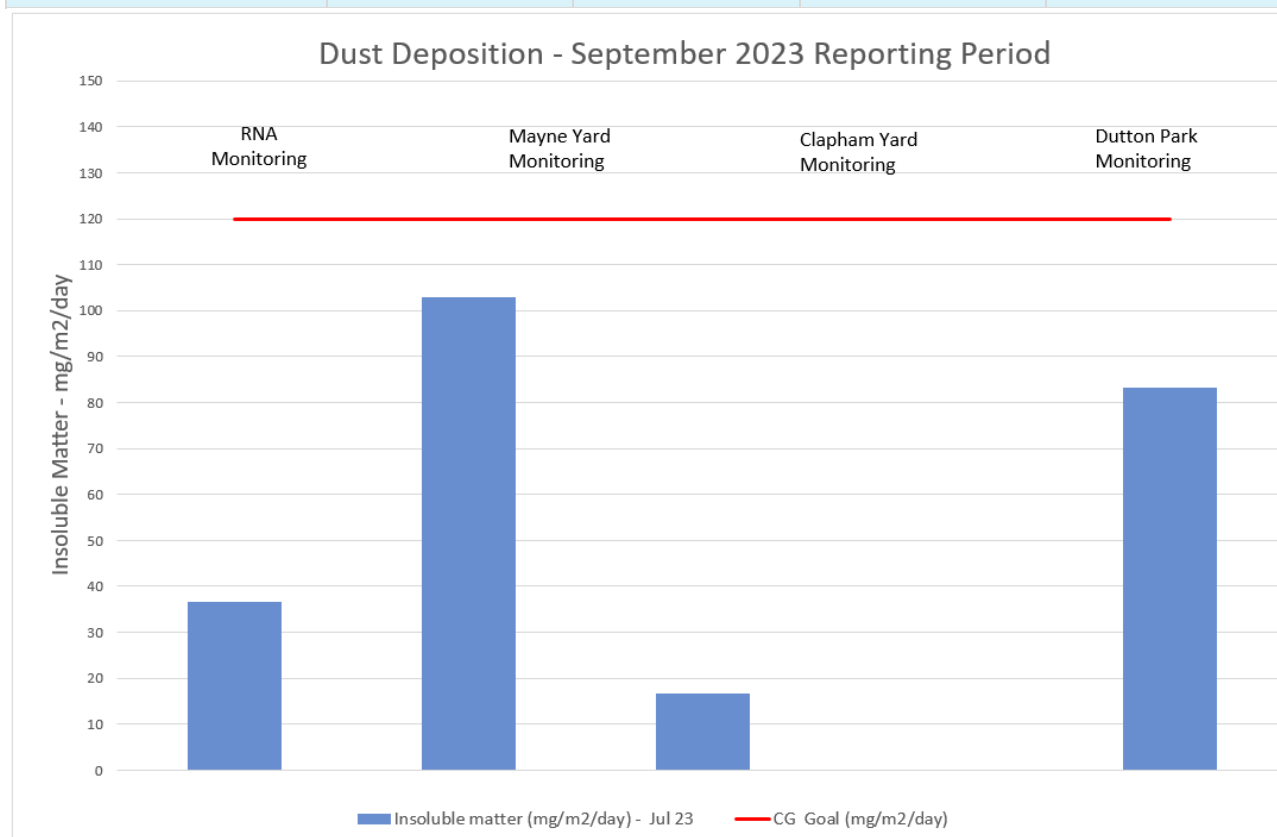


Figure 1 Air Quality Monitoring (Deposited Dust) Results

There were no recorded exceedances over the reporting period for the project. The Project continues to meet their requirements under imposed Condition 13 of the OEMP. The project has implemented the use of trafficable binders at Mayne Yard and at Dutton Park to reduce dust release from these project sites.

While there were no exceedances recorded for the reporting period, higher than average results were recorded at Mayne Yard North.

Boxing out and stockpiling of material occurred on the north bank of Breakfast Creek throughout the reporting period. The higher than average results can be attributed to the works occurring in close proximity to the Dust Deposition Gauge.

### 3.1.9 Particulates Results

UNITY had two (2) partially active air quality monitoring stations and one (1) station out for annual calibration in place for the reporting period as detailed in Table 6.

Works at the RNA (Exhibition grounds) have continued with the completion of bulk earthworks at the project site. Works at Clapham have been ongoing with the facility predominately focused on the staging works associated with project rail track possessions. There is some work associated with the structures on site, but for the most part these are limited to structural works around the flyover with limited bulk earthworks on the project site. There were bulk civil works occurring directly adjacent to the DDG at Mayne Yard during September. Due to the short-term nature of the works, another location for the DDG was not identified. This explains the increase in Dust results for that area. Air Quality Monitoring Stations

#### 3.1.9.1 Monitoring Results – Reporting Period

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

TSP is one of the indicators for which the Coordinator-General has imposed a goal of 80 µg/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 50 µg/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 air quality professionals. The results are represented in the below figures.

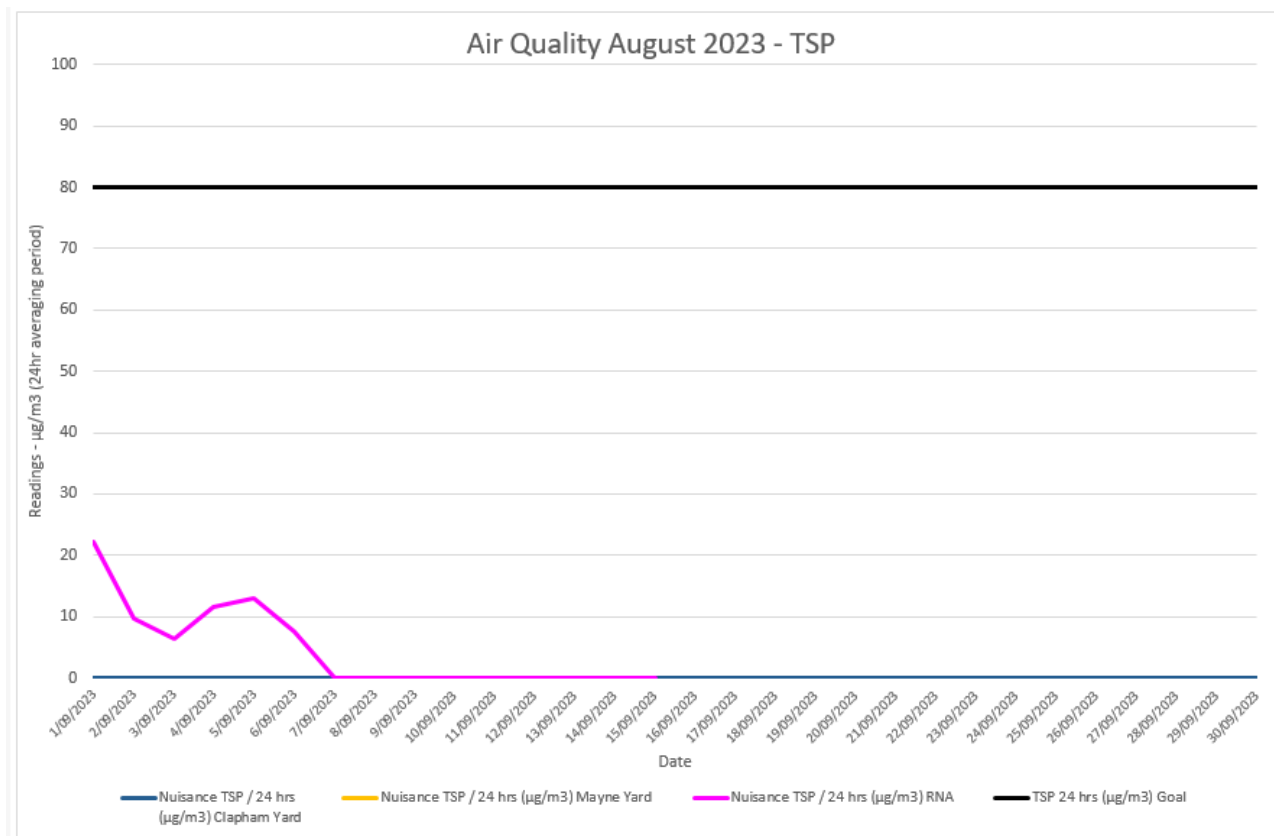


Figure 2 Air Quality Monitoring (TSP) Results

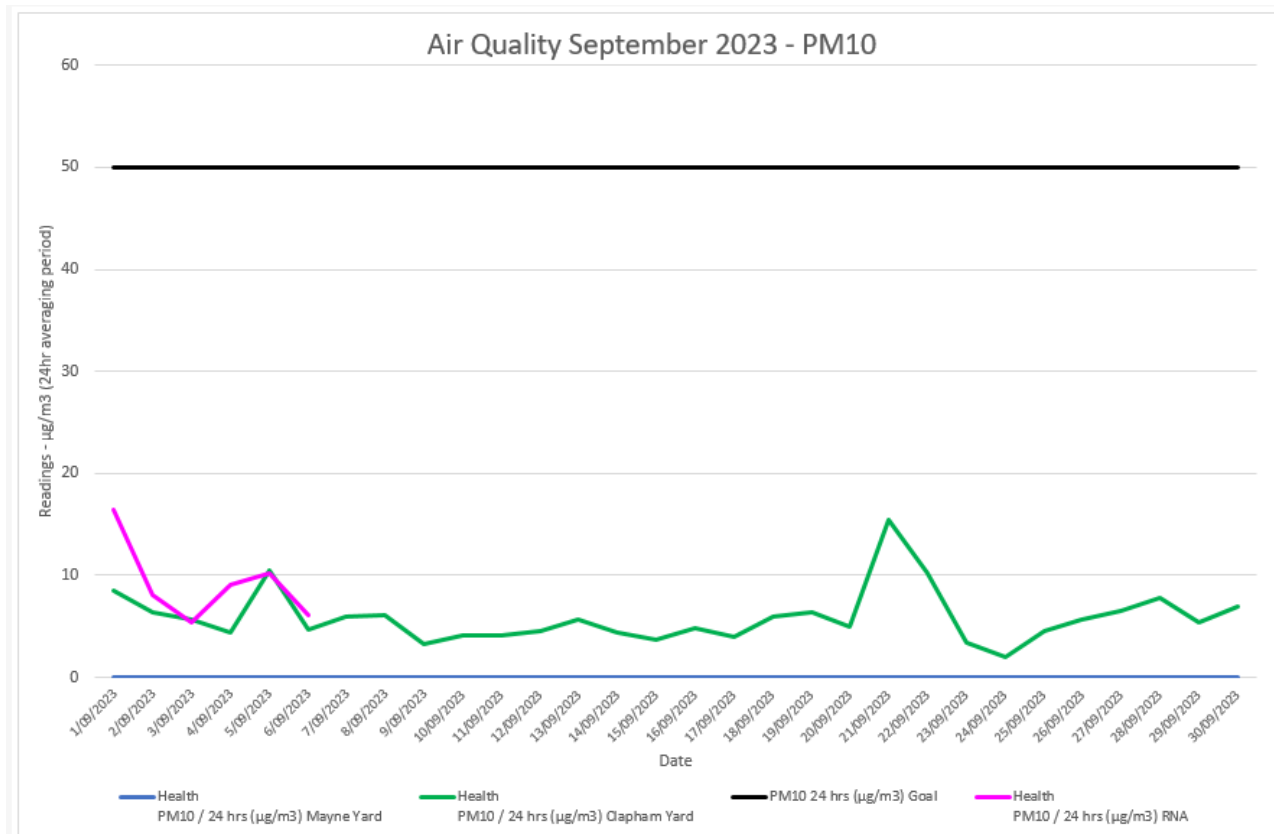


Figure 3 Air Quality Monitoring (PM10) Results

### 3.1.10 Monitoring Results – Annual Averaging

Imposed Condition 13 (a) sets annual average air quality goals for TSP (Human health) and PM<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

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	Mayne Yard East (Eastern Air Shed)	26 August 2022	Not yet decommissioned	<b>Period 1</b> (Started 26 August 2022) 211 days over 280 days  <b>Period 2</b> (Started 27 August 2023) 24 days over 35 days	<b>Period 1</b> 75% Over 280 days  <b>Period 2</b> 68% over 35 days	<b>Applicable for Period 1</b> Data capture has not yet met minimum data capture requirements.  <b>Applicable for Period 2</b>
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) 310 over 365 days <b>Period 4</b> (Started 14 June 2023) 85 days over 108 days	<b>Period 1</b> 86% over 365 days <b>Period 2</b> 79% Over 365 days <b>Period 3</b> 85% Over 350 days <b>Period 4</b> 78% Over 18 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>Applicable for Period 3</b> Data capture met minimum data capture requirements <b>Not yet applicable for Period 4</b> Data capture has not yet met minimum data capture requirements
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> (01 February 2022 to 31 January 2023) 190 over 365 days <b>Period 3</b> (started 01 February 2023) 172 over 225 days	<b>Period 1</b> 90% over 364 days <b>Period 2</b> 57% Over 365 days <b>Period 3</b> 76% Over 225 days	<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 italic are indicative only.



Table 9 Annual Performance Results

Air Quality Indicator	Goal	Period	Northern Corridor	Mayne Yard North	Mayne Yard East	RNA	Clapham Yard
TSP 90 µg/m <sup>3</sup>		Period 1	8 µg/m <sup>3</sup>	11 µg/m <sup>3</sup>	9 µg/m <sup>3</sup>	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	-	13 µg/m <sup>3</sup>	Not yet applicable
		Period 4	-	Not 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>	11 µg/m <sup>3</sup>	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	-	10 µg/m <sup>3</sup>	Not yet applicable
		Period 4	-	Not applicable	-	Not yet applicable	-

### 3.1.11 Interpretation

#### 3.1.11.1 Particulates Results

External ambient air quality was collected for total suspended particulates (TSP) and particulate matter less than 10µm (PM<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 valid particulate results exceeded their relevant goals for PM<sub>10</sub> at RNA and Clapham Yard
- There were no complaints received associated with air quality concerns for the sites of Mayne Yard, RNA and Clapham Yard
- The Mayne Yard East DMP was returned from calibration and installed on 8 September, Further commentary below in 3.1.11.2
- The RNA DMP was removed for calibration on 6 September
- The Clapham Yard DMP was recording data throughout September, however TSP results for September will not be reported until October report. Further commentary below in 3.1.11.3.

#### 3.1.11.2 Mayne Yard West September Interpretation

The DMP was relocated to Mayne Yard West post-calibration due to changes to access in Mayne Yard East.

Due to technical issues with the Mayne Yard West DMP, there were seven (7) days with recorded data for the reporting period. Zero (0) out of the seven days recorded a sufficient volume of data (minimum 18-hours, or 75% over a 24-hour period). The Team reviewed these issues with the technical support team and trouble

shooting power supply issues, connection errors and air inlets. Crimping of the air inlet tube was found to be the cause of the poor data reading.

No complaints were received by UNITY from surrounding sensitive receivers regarding air quality during the reporting period.

#### 3.1.11.2.1 UNITY Works

During the reporting period Mayne Yard East/West works consisted of entry road modifications, signalling hut installation, CER inground services installation and minor track works.

#### 3.1.11.2.2 Meteorological Conditions

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

Due to the proximity of earthmoving and stockpiling activities to the dust gauge, the impact of wind direction cannot be confirmed.

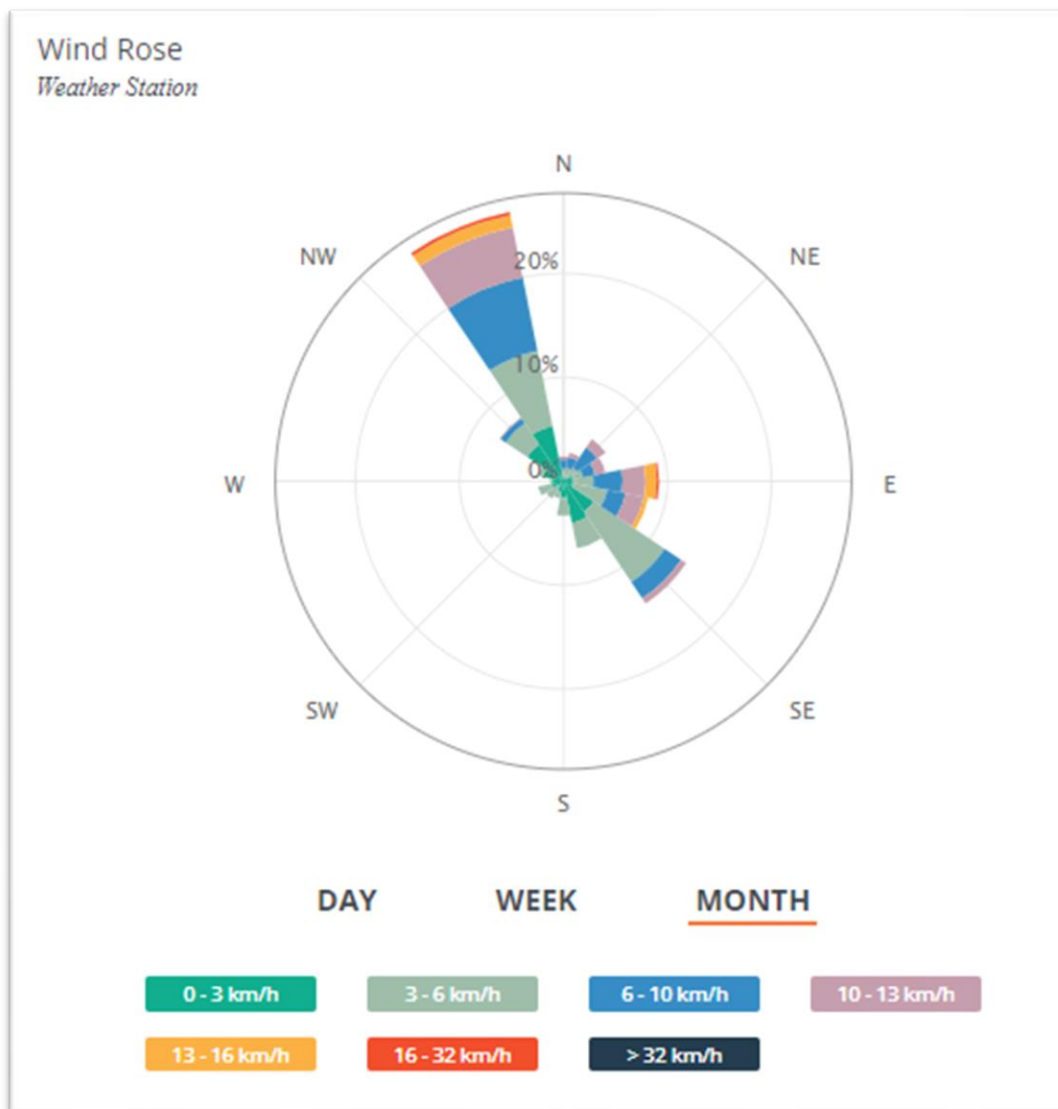


Figure 4 Mayne Yard East Wind Rose September 2023

#### 3.1.11.2.3 Air Quality Complaints

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

#### 3.1.11.3 Clapham Yard TSP Data September 2023

During the September reporting period, the Clapham Yard particulate monitor recorded PM<sub>10</sub> data only. Additional analysis is required for the reporting of TSP data.

TSP results for the current reporting period will be included in the October report.

No air quality complaints were received in relation to Clapham Yard works for the reporting period.

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

##### 3.1.11.3.1 UNITY Works

During the insufficient data period Clapham Yard Works consisted of BR94 RSS wall works and Energex cutover works.

The Clapham Yard site is almost entirely capped and exposed areas such as batters and stockpiles have been glued down with a polymer spray which binds soil particles, forming a crust to manage erosion and sediment control and dust generation.

##### 3.1.11.3.2 Meteorological Conditions

As shown in the wind rose below (refer Figure 5) the predominant winds during the lag in TSP data period were from a westerly direction. As a result, any potential dust generated from UNITY works would have travelled east towards the Clapham Yard dust deposition gauge (refer to Attachment 3).

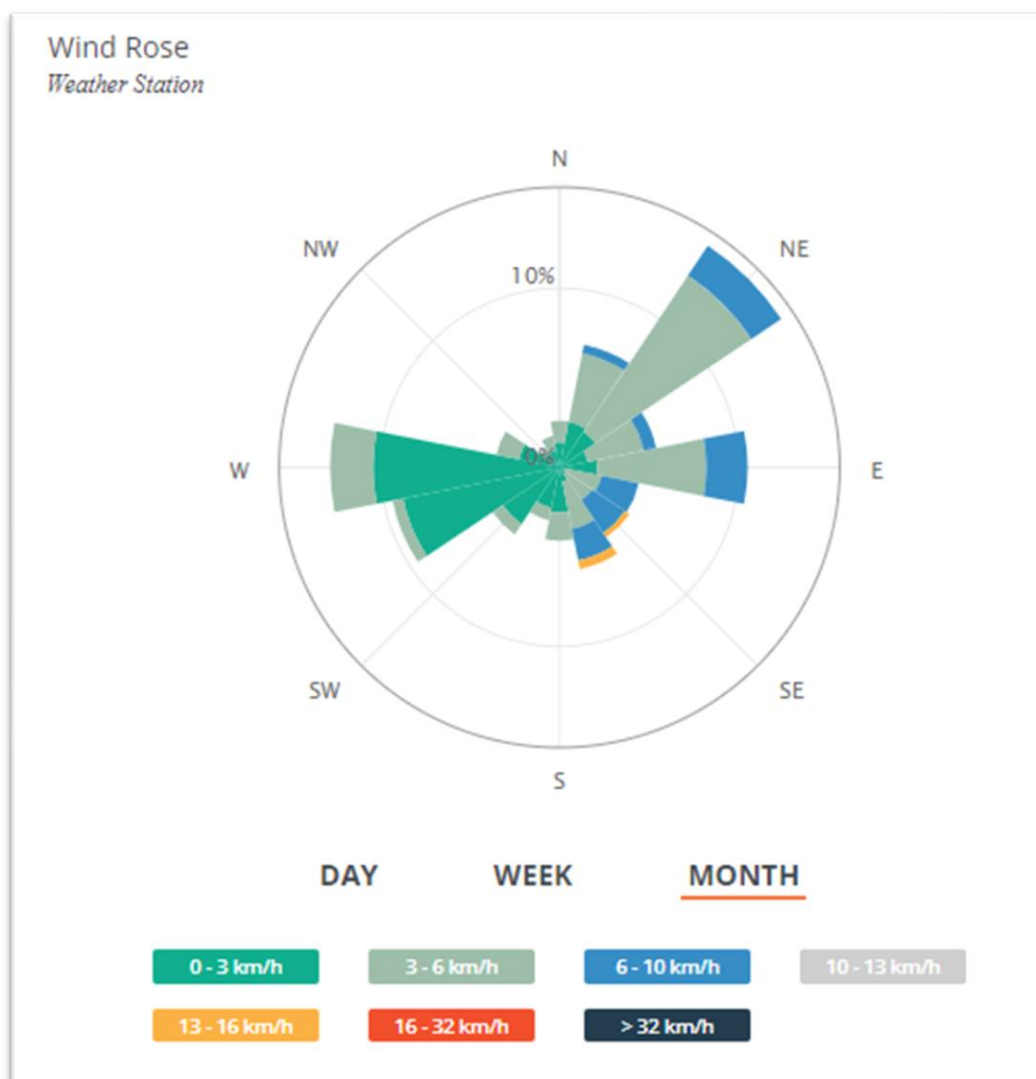


Figure 5 Clapham Yard Wind Rose September 2023

### 3.1.11.3.3 Air Quality Complaints

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

Additional remodelling was also completed by the Project CAQP which confirmed that the current scope of Works at Clapham Yard does not trigger particulates monitoring.

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

### 3.1.11.4 RNA September Interpretation

Due to the DMP requiring annual calibration by the supplier interstate, data for the reporting period was recorded between 1 to 6 September.

There were no exceedances recorded during this time.

#### 3.1.11.4.1 UNITY Works

During the reporting period, RNA Works consisted of structural works and inground services installation.

## 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 was undertaken.

### 3.1.12 Rainfall Records

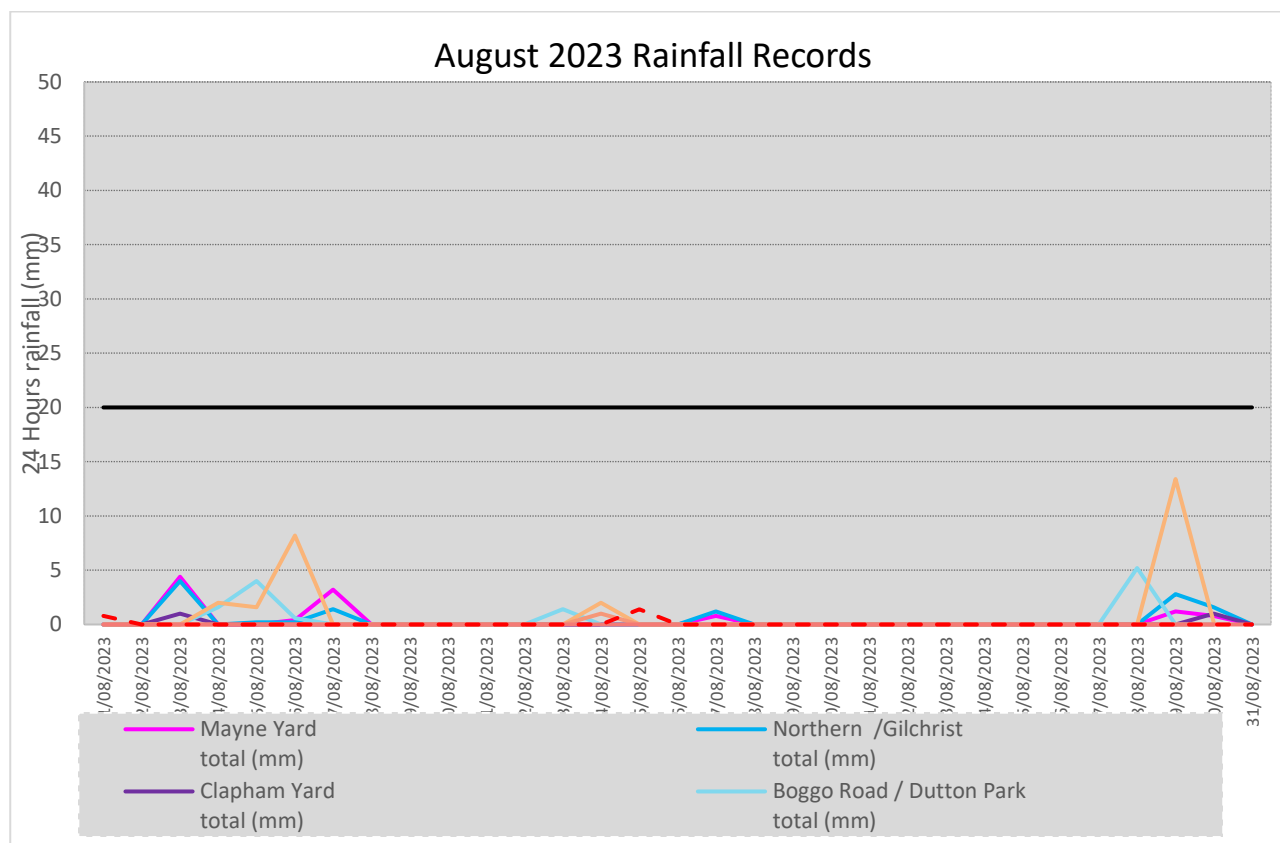


Figure 6 June 2023 Rainfall Records

### 3.1.13 Post Rainfall Monitoring Results

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

Post rainfall monitoring was not triggered as per Condition 15(b) and Condition 18. Therefore, the RIS scope of works were compliant with Imposed Conditions 15 and 18.

### 3.1.14 Routine Surface Water Monitoring Results

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

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

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

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

### 3.1.15 Groundwater Discharge Monitoring Results

Groundwater discharge monitoring was not triggered during the reporting period.

### 3.1.16 Surface Water Discharge Monitoring

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

Table 10 Surface Water Discharge Results

Date	Location	Waterway	Discharge Criteria <sup>2</sup>			
			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
Nil – Not Triggered						

<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.

## 4 Compliance Review

### Non-Compliance Events

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

#### 4.1.1 Non-Compliance Events Summary

Table 11 Summary of Non-Compliance Events

Event Title	Location, Date, and time of event	Date the Event was Formally Notified to CG/IEM	Conditions Affected	Date the Event Report Formally Sent to CG/IEM	Status of Event
N/A for reporting period					

### C-EMP Compliance

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

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

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Air Quality	Visual monitoring program + Additional particulate monitoring as required based on the outcomes of the predictive assessment/risk profile	Moderate to High	Yes – visual monitoring is undertaken as part of routine inspections. Monitoring for TSP, PM <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	Not triggered	Compliant	Not Applicable
Noise	Buffer distance tests based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – noise monitoring was triggered based on the outcome of predictive noise models for works at Yeerongpilly during the SCAS	Compliant	Not Applicable
Noise	Plant noise audits for noisy plant to validate models input as required	Moderate to High	No	N/A	Not Applicable
Noise	Complaint's response	Moderate to High	Not triggered	N/A	Not Applicable
Vibration	Construction Monitoring at Sensitive Places / DAPs - Model verification based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – monitoring triggered for RNA Stage 3 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	Dry Season monitoring completed during the reporting period. Wet season monitoring to be completed later in the year.	Compliant	Not Applicable
Water Quality	Post Rainfall	Moderate to High	Not triggered	Compliant	Not Applicable
Water Quality	Dewatering	Moderate to High	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 7 Yeerongpilly Station Noise Monitoring 30 September 2023

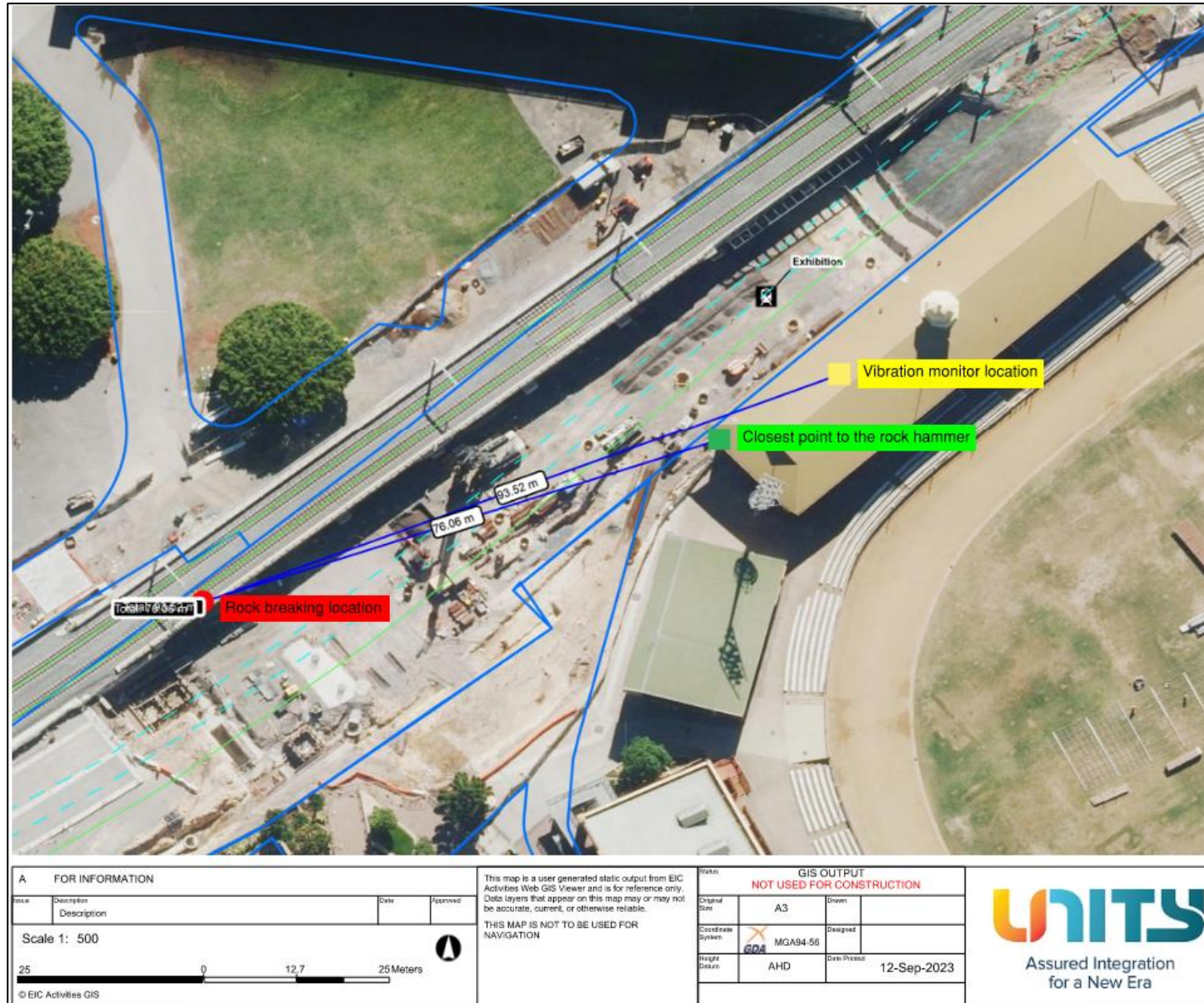
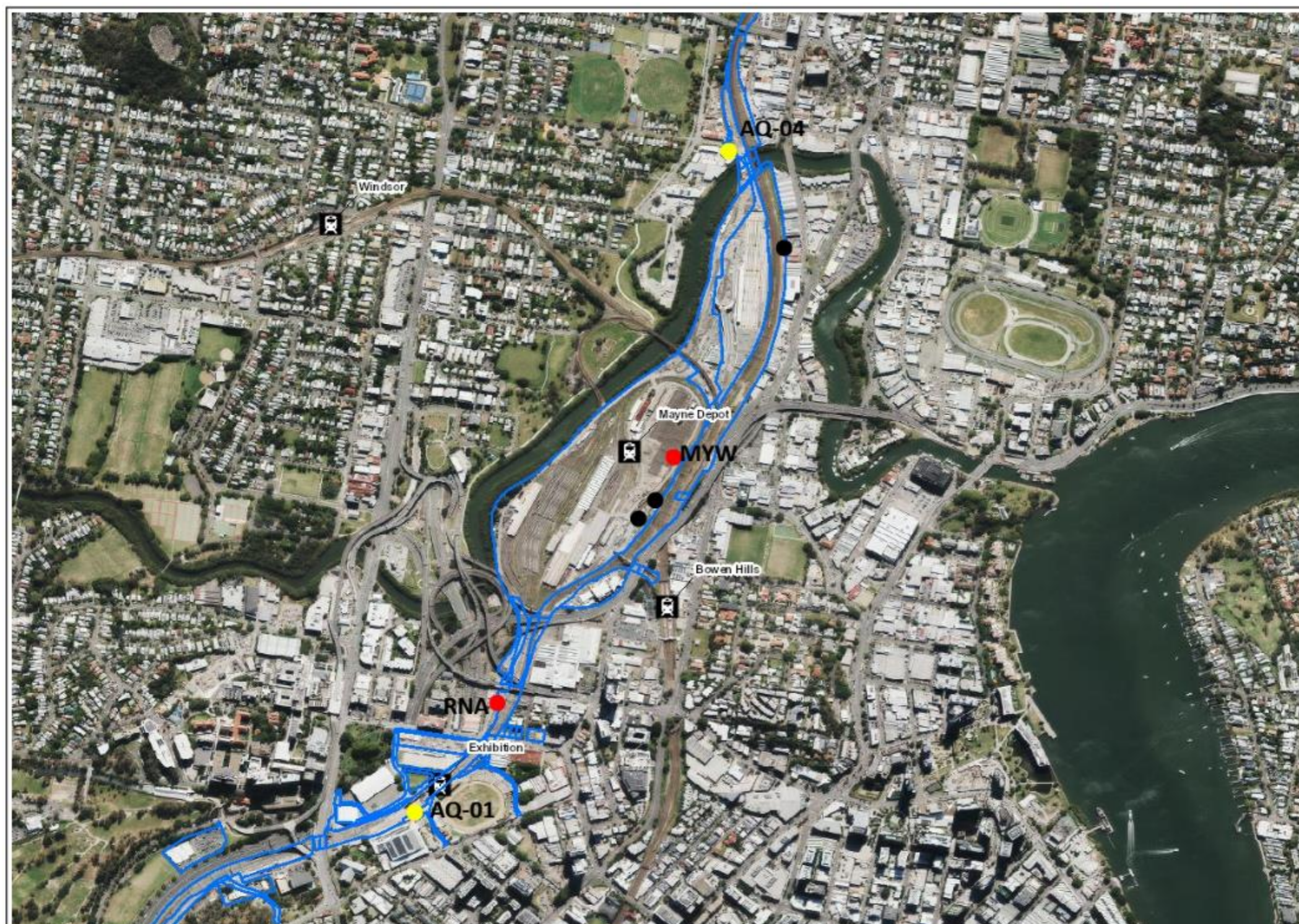




Figure 8 RNA Vibration Monitoring September 2023

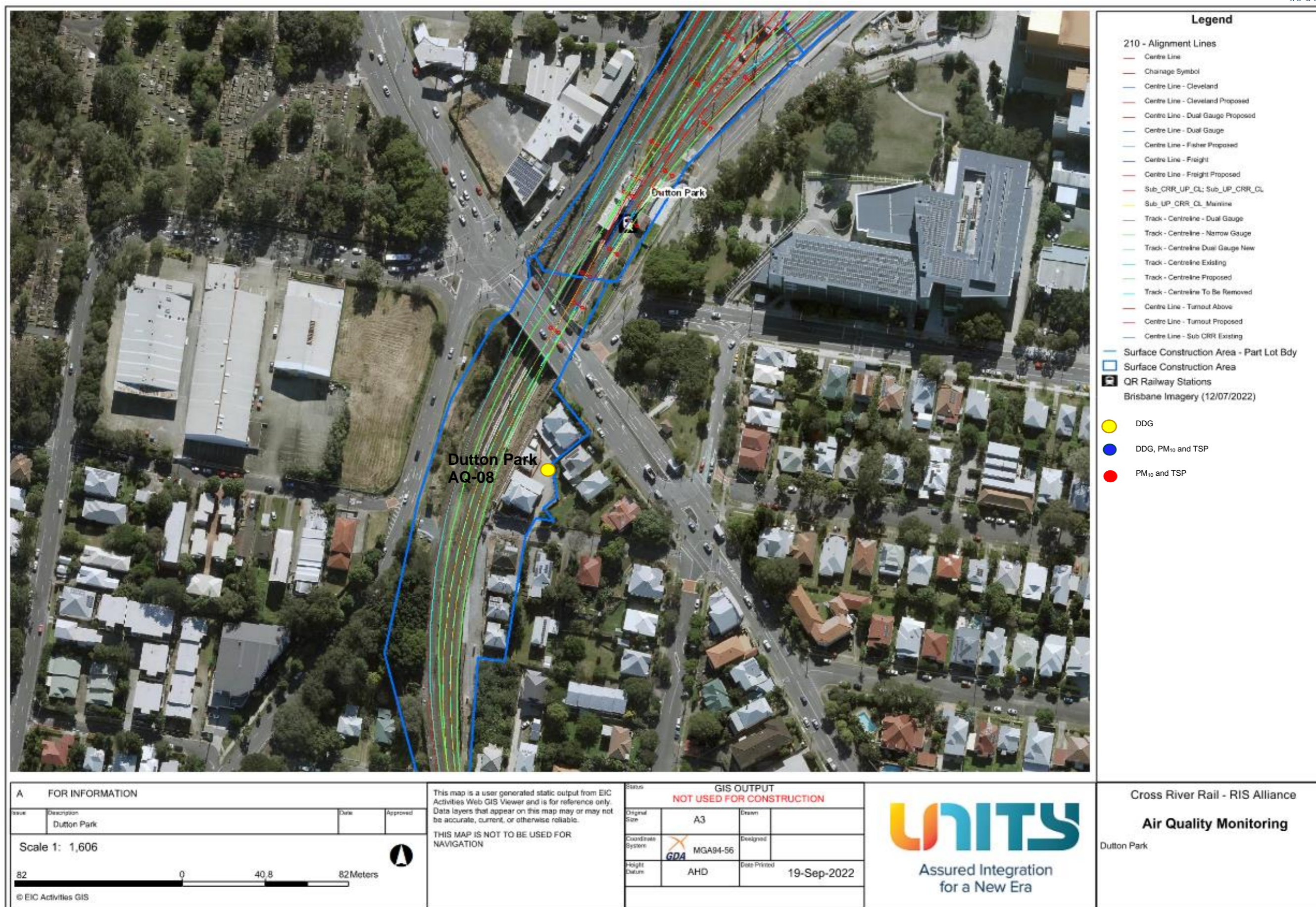
## Attachment 3   Monitoring Locations – Air Quality

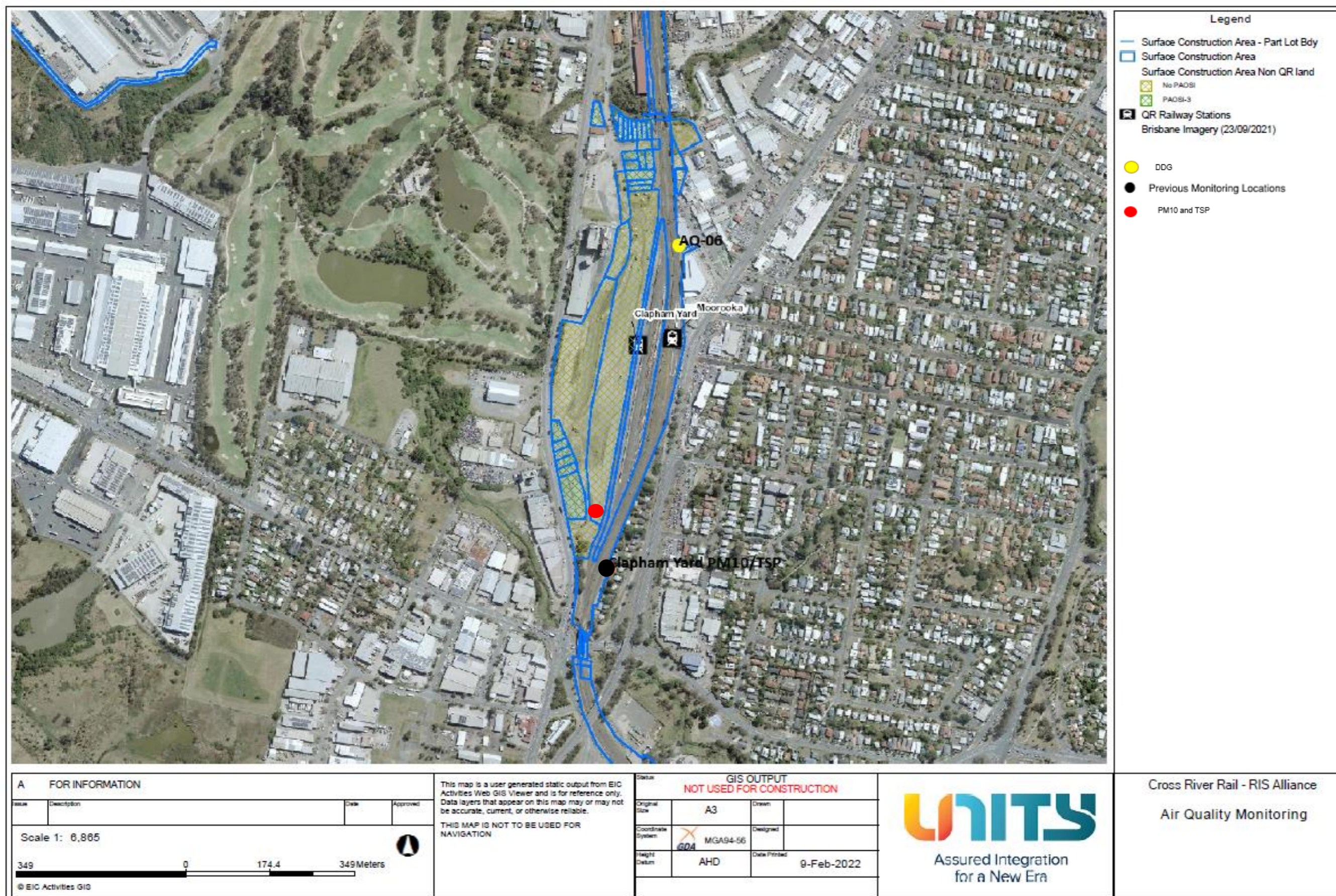


**Legend**

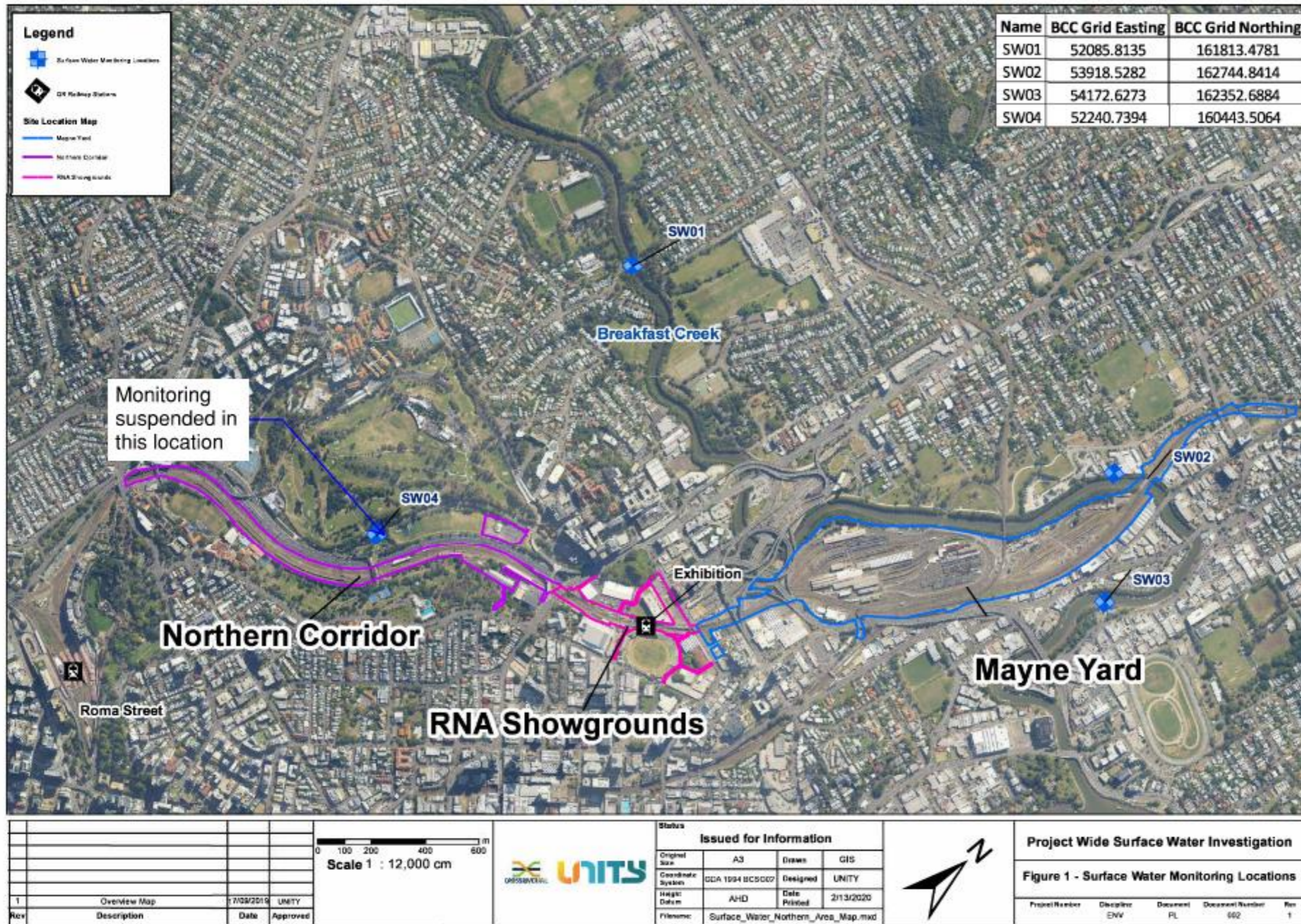
- Surface Construction Area - Part Lot Bdy
- Surface Construction Area
- QR Railway Stations
- Brisbane Imagery - 08/05/2023
- PM10 and TSP
- DDG
- Previous Monitoring Locations

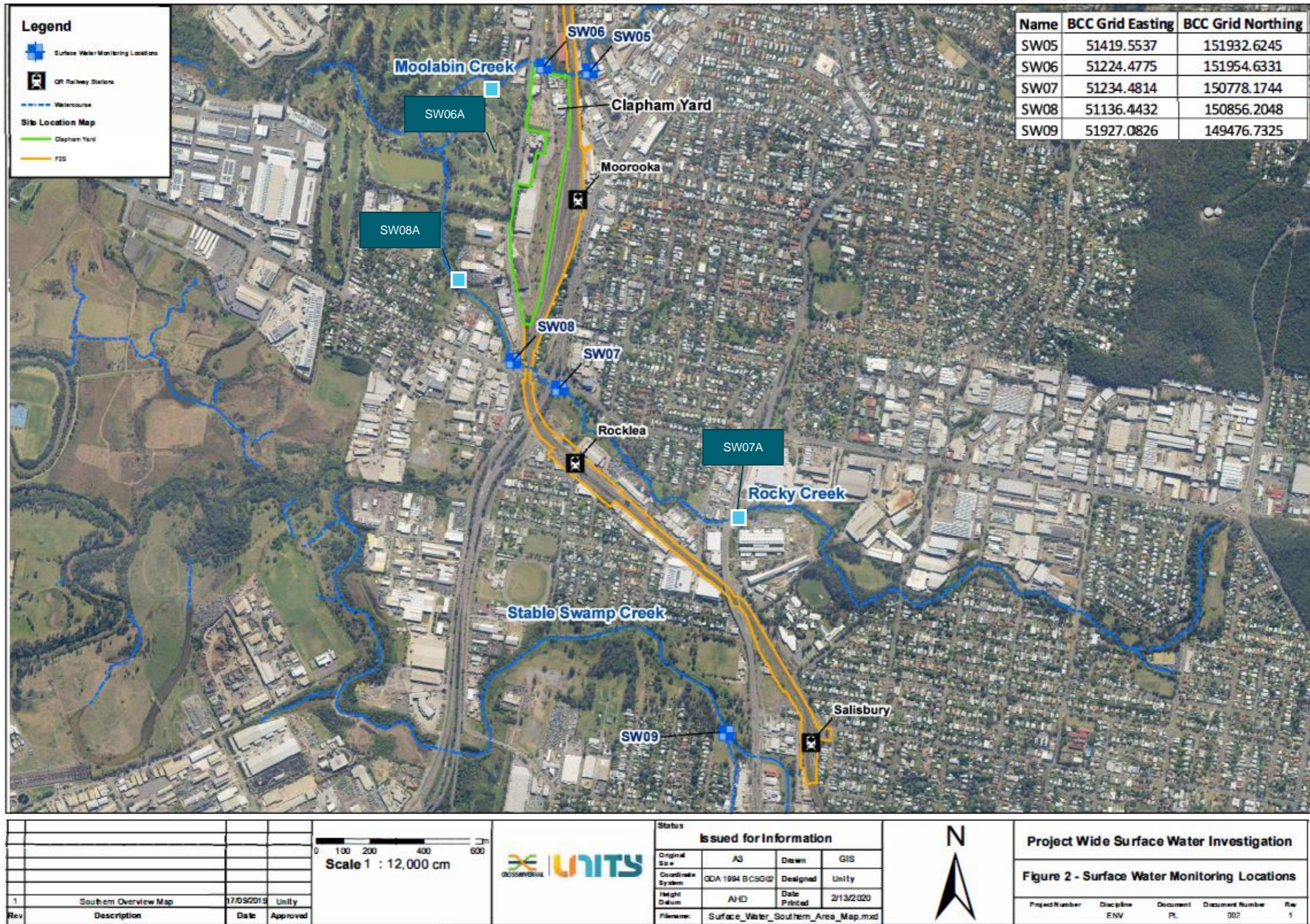
A FOR INFORMATION				<p>THIS MAP IS A USER GENERATED STATIC OUTPUT FROM EIC ACTIVITIES WEB GIS VIEWER AND IS FOR REFERENCE ONLY. DATA LAYERS THAT APPEAR ON THIS MAP MAY OR MAY NOT BE ACCURATE, CURRENT, OR OTHERWISE RELIABLE.</p> <p>THIS MAP IS NOT TO BE USED FOR NAVIGATION</p>	<p>GIS OUTPUT <b>NOT USED FOR CONSTRUCTION</b></p>	 Assured Integration for a New Era	<p>Cross River Rail - RIS Alliance</p> <p><b>Air Quality Monitoring</b></p> <p>Description</p>
Issue	Description	Date	Approved	Original Size	A3	Drawn	
Scale 1: 10,000				Coordinate System	GDA MGA94-56	Designed	
 <p>508 0 254.0 508 Meters</p> <p>© EIC Activities GIS</p>				Height Datum	AHD	Date Printed	17-Oct-2023





## Attachment 4    Monitoring Locations – Surface Water





# Appendix B TSD Monthly Report

## COORDINATOR-GENERAL'S MONTHLY REPORT: SEPTEMBER 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 during September 2023. Noise monitoring was conducted on sixteen (16) occasions during September 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 September 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-one (21) occasions. Each monitoring event confirmed project requirements were adhered to. One (1) round of surface water quality monitoring was conducted; the monitoring event confirmed no impacts were generated by the Project.

## 2. CG Monthly Report – Compliance Assessment Against Imposed Conditions

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

Table 1: Compliance Status – CG Imposed Conditions

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
1.	<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's Change Reports acknowledges instances that exist that these goals may not be achieved.

Vibration monitoring was conducted on two (2) occasions during September 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.	12/09/2023	1:44:00 PM	14/09/2023	Albert Street (Albert Street Precinct)	0.12	0.26	2	Heritage structure	Yes
2.	18/09/2023	4:49:00 PM	19/09/2023	Peter Doherty Street (Boggo Road Precinct)	0.08	0.18	50	Residential	Yes

## 3.2 Noise

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

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

Noise monitoring was conducted on sixteen (16) occasions during September 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.	1/09/2023	11:25:00 AM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete Works	Construction	72	67.4	62	65.4	Yes
2.	5/09/2023	1:46:00 PM	Roma Street (Roma Street Precinct)	Construction Monitoring at Sensitive Places	External	Earthworks	Road Traffic	67	74.8	57	74.1	Yes
3.	7/09/2023	5:52:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete Works	Construction	55	36.7	45	34.1	Yes
4.	7/09/2023	6:37:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete Works	Construction	50	49.3	40	45.5	Yes
5.	7/09/2023	7:04:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete Works	Road Traffic	67	69.7	57	67.8	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.	11/09/2023	12:49:00 PM	Gregory Terrace (Northern Portal Precinct)	Construction Monitoring at Sensitive Places	External	Drilling Works	Non-project Related Construction	62	67.4	52	64.9	Yes
7.	11/09/2023	2:06:00 PM	Albert Street (Albert Street Precinct)	Model Verification	External	Demolition Works	Construction	72	73	62	68.5	Yes
8.	12/09/2023	9:52:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Demolition Works	Construction	67	67.4	57	65.1	Yes
9.	12/09/2023	10:11:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Demolition Works	Construction and Road Traffic	59	66.7	52	65.1	Yes
10.	12/09/2023	10:41:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete works	Construction	59	63.5	52	61.7	Yes
11.	13/09/2023	11:16:00 AM	Peter Doherty Street (Boggo Road Precinct)	Construction Monitoring at Sensitive Places	External	Concrete Works	Construction	67	64.7	62	62.5	Yes
12.	19/09/2023	8:23:00 PM	Roma Street (Roma Street Precinct)	Construction Monitoring at Sensitive Places	External	Demolition Works	Road Traffic	62	71.9	52	75.6	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)
13.	26/09/2023	10:09:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete works	Construction	42	36.6	35	33.9	Yes
14.	27/09/2023	11:28:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete Works	Construction	42	29.5	35	29.7	Yes
15.	28/09/2023	12:04:00 AM	Mary Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete Works	Road Traffic	59	74.6	52	70.4	Yes
16.	28/09/2023	12:04:00 PM	Lockerbie Street (Woolloongabba Precinct)	Construction Monitoring at Sensitive Places	External	Tunnel Services Installation Works	Non-Project Related Construction and Road Traffic	62	53.3	52	54.5	Yes

- [1] Intermittent noise goal (LA10)

- [2] Continuous noise goal (LAeq)

- [3] 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 September 2023. The dust deposition gauges results for the reporting period are detailed below, and all monitoring data adhered to project requirements.

Table 4.2.2: Air Quality Monitoring – September 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	48.39	Air quality monitoring was performed during the reporting period. All results adhered to project requirements.
Roma Street Precinct				12.90	
Albert Street Precinct (North)				42.86	
Albert Street Precinct (South)				28.57	
Woolloongabba Precinct (North)				25.81	
Woolloongabba Precinct (South)				64.52	
Boggo Road Precinct (North)				25.81	
Boggo Road Precinct (South)				35.48	
Southern Portal (South)				51.61	
Southern Portal (East)				22.58	

- [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.

### 3.3.2 Ambient Air Quality Results

Total Suspended Particles (TSP) and particulate matter less than 10µm (PM10) monitoring were conducted during September 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 September 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-Sep-23	80	50	15.43	15.27	15.45	12.41	- [2]	- [2]	16.30	16.26
02-Sep-23	80	50	13.91	13.83	15.14	13.66	- [2]	- [2]	10.16	10.14
03-Sep-23	80	50	14.97	14.90	9.37	8.87	- [2]	- [2]	11.41	11.40
04-Sep-23	80	50	15.21	15.10	15.50	12.88	- [2]	- [2]	7.17	7.16
05-Sep-23	80	50	15.44	15.23	14.41	11.82	- [2]	- [2]	- [3]	- [3]
06-Sep-23	80	50	15.50	15.30	15.90	13.01	- [2]	- [2]	- [3]	- [3]
07-Sep-23	80	50	15.08	14.95	17.94	14.73	- [2]	- [2]	- [3]	- [3]
08-Sep-23	80	50	16.42	16.29	16.30	13.95	- [2]	- [2]	- [3]	- [3]
09-Sep-23	80	50	11.17	10.78	12.07	9.23	- [2]	- [2]	- [3]	- [3]
10-Sep-23	80	50	12.49	12.39	8.65	7.77	- [2]	- [2]	- [3]	- [3]
11-Sep-23	80	50	8.80	8.69	15.04	11.74	3.73	3.69	- [3]	- [3]
12-Sep-23	80	50	8.21	8.11	13.80	10.45	3.91	3.90	- [3]	- [3]
13-Sep-23	80	50	13.05	12.95	16.01	12.46	8.01	7.99	- [3]	- [3]
14-Sep-23	80	50	19.04	18.93	15.71	12.86	12.85	12.84	- [3]	- [3]
15-Sep-23	80	50	10.01	9.92	15.76	12.07	6.24	6.23	- [3]	- [3]
16-Sep-23	80	50	13.38	13.28	17.55	13.79	10.30	10.30	- [3]	- [3]
17-Sep-23	80	50	16.14	16.08	8.23	7.60	12.49	12.49	- [3]	- [3]
18-Sep-23	80	50	16.94	16.84	11.88	10.22	11.03	11.01	- [3]	- [3]

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-Sep-23	80	50	13.73	13.61	16.98	13.56	6.07	6.06	- [3]	- [3]
20-Sep-23	80	50	11.31	11.20	16.72	13.23	0.50	0.49	- [3]	- [3]
21-Sep-23	80	50	23.13	22.89	20.65	16.81	1.14	1.07	- [3]	- [3]
22-Sep-23	80	50	13.93	13.74	20.51	16.91	0.51	0.47	- [3]	- [3]
23-Sep-23	80	50	10.01	9.83	10.88	9.16	0.42	0.42	- [3]	- [3]
24-Sep-23	80	50	6.53	6.50	5.18	4.80	0.50	0.50	- [3]	- [3]
25-Sep-23	80	50	9.51	9.38	11.57	9.53	0.12	0.11	- [3]	- [3]
26-Sep-23	80	50	11.60	11.45	12.61	9.99	0.55	0.54	- [3]	- [3]
27-Sep-23	80	50	18.63	18.46	16.42	13.89	0.22	0.19	- [3]	- [3]
28-Sep-23	80	50	31.33	31.20	21.51	18.61	-	-	- [3]	- [3]
29-Sep-23	80	50	15.75	15.65	13.70	11.62	0.33	0.28	- [3]	- [3]
30-Sep-23	80	50	12.45	12.37	9.54	7.84	0.43	0.41	- [3]	- [3]

- [1] Project works must aim to achieve construction air quality goals. The Coordinator-General Change Report – Whole of Project Refinements 2019 acknowledges instances that exist that these goals may not be achieved.
- [2] The Boggo Road air quality unit experienced technical difficulties from the 1<sup>st</sup> – 10<sup>th</sup> and the 28<sup>th</sup> of September. As soon as practicable, the unit was inspected, and the manufacture was contacted to assist with resolving the issue. The air quality unit was sent to the manufacture for repair and reinstated as soon as practicable. A nearby (Woolloongabba) 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.
- [3] The Northern Portal air quality unit experienced technical difficulties from the 5<sup>th</sup> to the 30<sup>th</sup> of September. As soon as practicable, the unit was inspected, and the manufacture was contacted to assist with resolving the issue. The air quality unit was sent to the manufacture for repair. A nearby (Brisbane CBD) DES Air Quality Station demonstrated compliant air quality during this outage period.

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

- Brisbane CBD: PM10 daily Maximum average: **28.0 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=cbd&parameter=18&date=1/09/2023&timeframe=month>)
- South Brisbane: PM10 daily Maximum average: **31.1 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=sbr&parameter=18&date=1/09/2023&timeframe=month>)
- Woolloongabba: PM10 daily Maximum average: **27.4 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=woo&parameter=18&date=1/09/2023&timeframe=month>).

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

# Particle PM<sub>10</sub> at Brisbane CBD, 1–30 September 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).

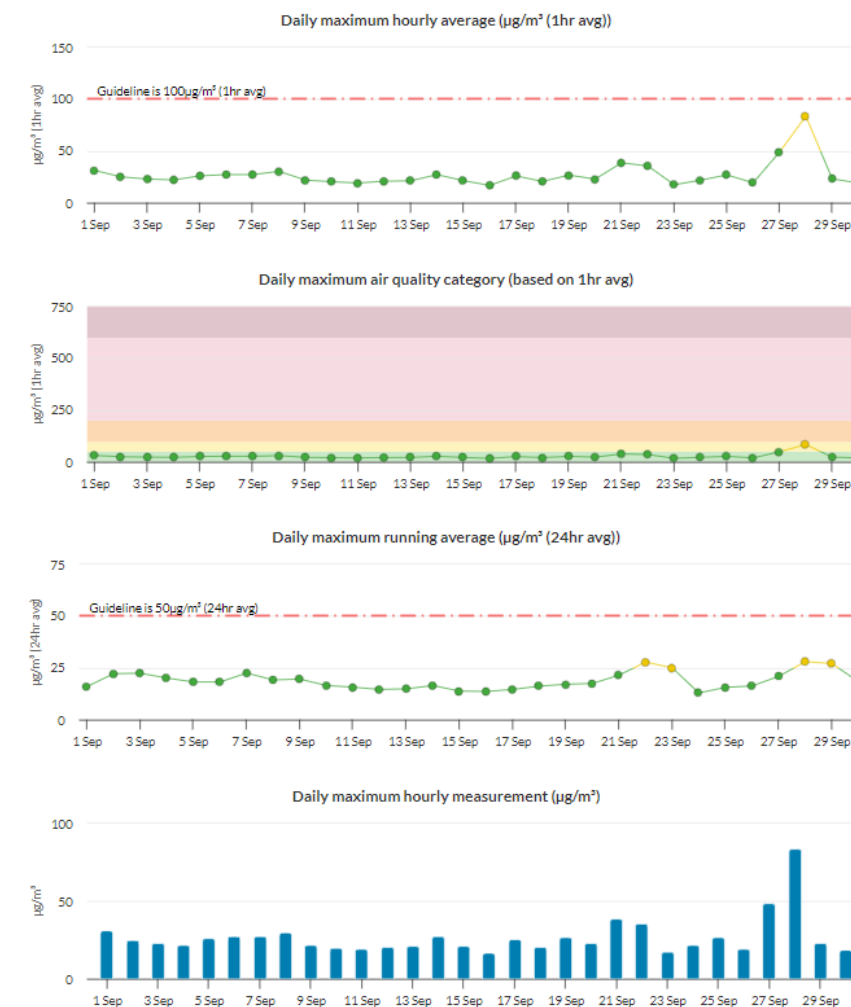


Figure 1: Brisbane CBD – DES Station - PM10 graph for September 2023 (reproduction from the DES website).

# Particle PM<sub>10</sub> at South Brisbane, 1-30 September 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).

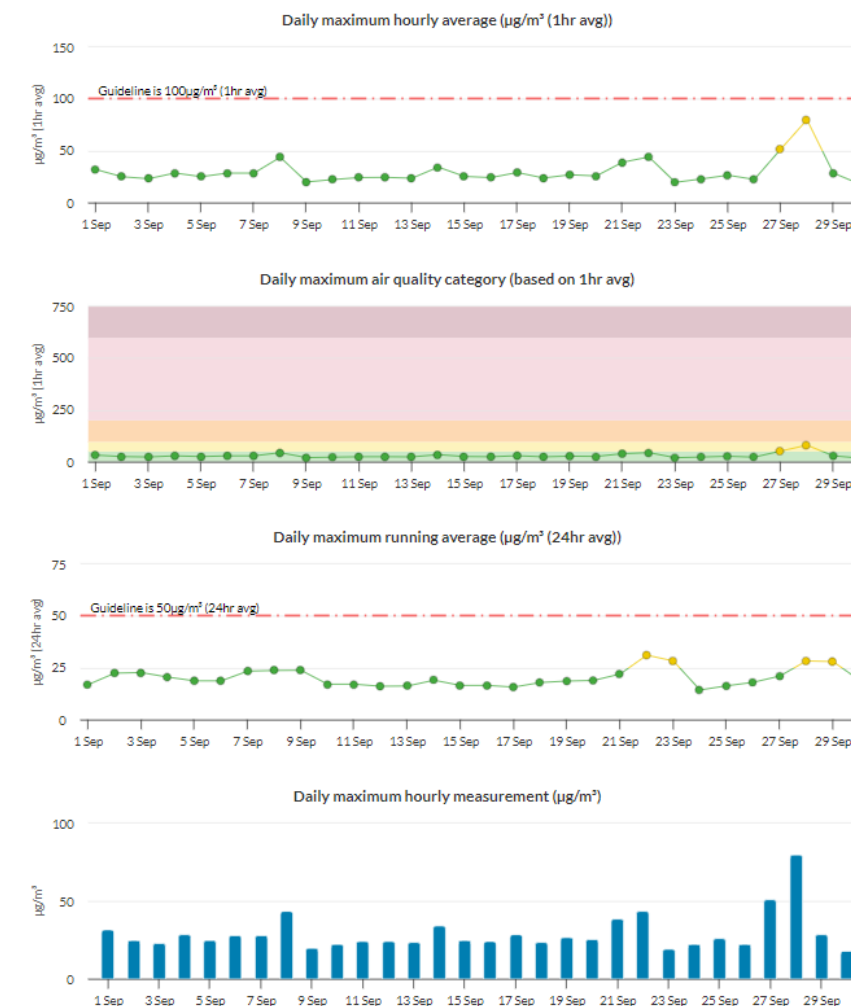


Figure 2: South Brisbane – DES Station - PM10 graph for September 2023 (reproduction from the DES website).

### Particle PM<sub>10</sub> at Woolloongabba, 1–30 September 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).

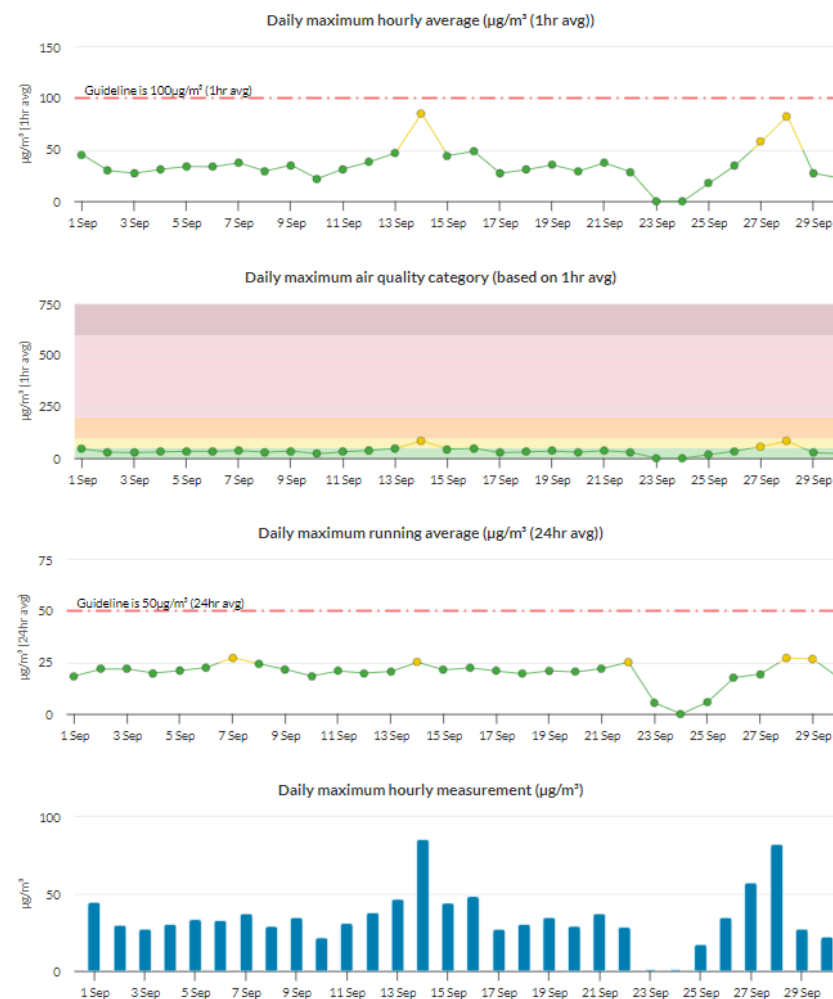


Figure 3: Woolloongabba – DES Station - PM10 graph for September 2023 (reproduction from the DES website).

### 3.4 Water Quality – Discharge

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

#### 3.4.1 Groundwater Discharge

Water quality monitoring data is provided in the table below.

Table 6: Groundwater Discharge – Water Quality Monitoring Data

Location	Date	Testing of Water Quality Objectives <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>	
Albert Street	09/09/2023	7.20	<5	0.30	230	340	400	900	<10	<10	2	85.93	Yes
Roma Street	15/09/2023	7.54	<5	0.87	130	510	600	1200	20	<10	<1	94.55	Yes
Woolloongabba	15/09/2023	7.52	<5	0.84	80	510	400	1000	<10	<10	<1	91.39	Yes
Boggo Road <sup>[5]</sup>	26/09/2023	-	-	-	-	-	-	-	-	-	-	-	-

- [1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. Water quality objectives are defined as goals within the Brisbane River estuary environmental values and water quality objectives document.
- [2] All results adhere to Project requirements in that site practices are designed to aim to achieve the water quality objectives. The dissolved oxygen samples were acquired before discharge from the site. Pumping of the water will have inadvertently aerated the water, thus influencing the dissolved oxygen level.
- [3] All results adhere to Project requirements in that site practices aim to achieve the water quality objectives. These samples identified results generally consistent with pre-construction conditions, and no external influences were introduced by construction activity.
- [4] Total nitrogen levels adhered to project requirements in that site practices are designed to aim to achieve the water quality objectives. The results are mostly below that of the receiving environment. They are also considered abnormal compared to results from previous months, and are influenced by external factors (e.g., high rainfall events, overloaded sewage systems, fertilising natural areas, etc.) rather than related to construction activities.
- [5] At the completion of this report the Boggo Road water quality results were not received from the laboratory. The results will be reported during next month's report.
- 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	29/08/2023	7.95	4.20	Yes
2.	Northern Portal	30/08/2023	7.65	8.20	Yes
3.	Northern Portal	31/08/2023	7.56	2.10	Yes
4.	Northern Portal	1/09/2023	7.92	1.08	Yes
5.	Northern Portal	4/09/2023	7.54	8.20	Yes
6.	Northern Portal	6/09/2023	8.01	8.20	Yes
7.	Northern Portal	7/09/2023	8.00	4.05	Yes
8.	Northern Portal	8/09/2023	7.75	12.57	Yes
9.	Northern Portal	11/09/2023	8.01	2.14	Yes
10.	Northern Portal	12/09/2023	7.80	1.60	Yes
11.	Northern Portal	13/09/2023	7.76	1.04	Yes
12.	Northern Portal	14/09/2023	7.23	4.78	Yes
13.	Northern Portal	15/09/2023	7.37	2.56	Yes
14.	Northern Portal	18/09/2023	7.92	2.15	Yes
15.	Northern Portal	19/09/2023	7.92	2.20	Yes

16.	Northern Portal	20/09/2023	7.60	8.24	Yes
17.	Northern Portal	21/09/2023	6.90	3.80	Yes
18.	Northern Portal	22/09/2023	7.91	1.60	Yes
19.	Northern Portal	25/09/2023	6.99	1.20	Yes
20.	Northern Portal	26/09/2023	7.01	1.04	Yes
21.	Northern Portal	27/09/2023	7.98	0.58	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 September 2023, CBGU JV undertook one (1) round of surface water sampling at five (5) site locations (upstream and downstream).

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

*Table 8: Offsite Upstream & Downstream Water Quality Data*

Location	Upstream / Downstream	Date	Purpose of Monitoring	Turbidity (NTU)	EC (µS/cm)	Dissolved oxygen (%)	pH
Albert Street	Upstream	8/09/2023	Monthly	10.24	35300	96.43	7.56
Albert Street	Downstream	8/09/2023	Monthly	7.96	35600	105.61	7.45
Woolloongabba	Upstream	14/09/2023	Monthly	25.8	47900	97.72	7.69
Woolloongabba	Downstream	14/09/2023	Monthly	17.61	34800	94.20	7.67
Boggo Road <sup>[1]</sup>	Downstream	14/09/2023	Monthly	27.60	17000	42.62	7.04
Northern Portal	Upstream	15/09/2023	Monthly	9.12	476	32.47	7.59
Northern Portal	Downstream	15/09/2023	Monthly	6.74	946	23.32	7.94
Roma Street	Upstream	15/09/2023	Monthly	18.58	41500	85.10	8.19
Roma Street	Downstream	15/09/2023	Monthly	19.00	41900	86.86	7.66

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

## 4 Non-Compliances

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

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

*Table 9: Non-Compliance Events this Month*

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

Nil

## 5 Complaints

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

During September 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.	1/09/2023	Albert Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise generated from the Albert Street worksite. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.  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.	Closed
2.	8/09/2023	Albert Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise generated from the Albert Street worksite. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.  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.	Closed
3.	20/09/2023	Albert Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise generated from the Albert Street worksite. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.  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.	Closed
4.	26/09/2023	Gibbon Street (Woolloongabba Precinct)	Workforce Behaviour	A stakeholder contacted the Project regarding worker behaviour.  CBGU investigated the event and reminded the workforce of employee expectations.	Closed