

The background of the entire page is a dark blue map. It shows a network of streets and roads, with a prominent river or waterway winding through the center. The map is rendered in a lighter blue color against the dark blue background, creating a subtle, textured effect.

# Cross River Rail Project

## Monthly Environmental Report

July 2023

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# Executive Summary

This Monthly Environmental Report (MER) has been produced for Project Works undertaken on site for July 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.	No	One Non-Compliance Event (NCE) was reported in July 2023 in relation to the Fairfield Out of Hours works in November 2022. Further details below in Section 2.5.

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. 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 not triggered.  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 July 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 July 2023.</p> <p>Post rainfall monitoring was triggered at Moolabin Creek and Rocky Water Holes Creek after a rainfall event on 4 July 2023. Downstream monitoring locations exhibited more than 10% increase in turbidity (NTU), triggering further investigation. This investigation confirmed that RIS scope of works was compliant with the outcomes of the Water Quality Management Plan and the Coordinators Generals imposed</p>

			<p>conditions.</p> <p>Surface water discharge occurred at RNA and the monitoring results demonstrated active surface water discharge criteria was met.</p> <p>TSD – Active discharge of groundwater occurred from Roma Street, Albert Street, Woolloongabba and Boggo Road worksites. Monitoring results of groundwater quality prior to discharge is consistent with the pre-construction water quality levels. Refer to <b>Appendix B</b> (Table 6) for groundwater monitoring results.</p> <p>Surface water discharges occurred at the Northern Portal and Southern 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 both TSD and RIS projects. 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.	<b>Erosion and sediment control</b> – Provisions for erosion and sediment control must be consistent with the Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52.	Yes	Site specific ESC plans for all active work sites have been reviewed by the EM and implemented on site.
19.	<b>Acid sulfate soils</b> – managed as per the Queensland Acid Sulfate Soil Technical Manual.	Yes	Acid Sulfate Soil Management Plans have been prepared and implemented for all active worksites.
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 was one NCE raised in July 2023 relating to the Fairfield Out of Hours works in November 2022. Refer to Section 2.5 for more details.

# 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.

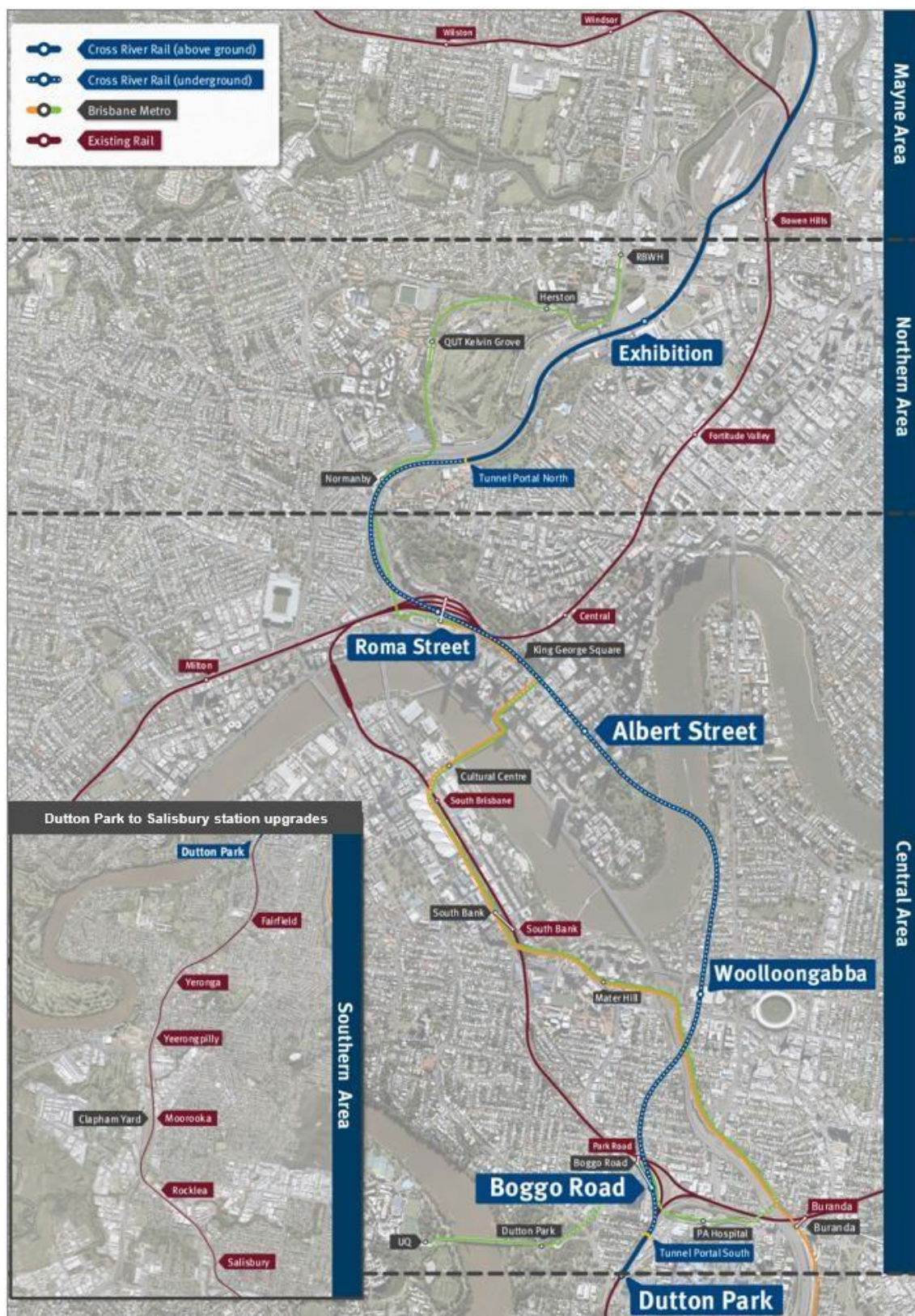
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

- 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 July 2023:

Area	Project Works
Mayne Area	<b>Mayne Yard North –</b> <ul style="list-style-type: none"><li>• Graffiti Removal Facility modifications on train gates completed;</li><li>• QR Vehicle access road to RTCB completed and ready for handover to QR;</li><li>• CRR-Line embankment Surcharge Loading Stage 2 commenced; and</li><li>• BR08 (Breakfast Creek Bridge) temporary jetty removal completed.</li></ul> <b>Mayne Yard East / West –</b> <ul style="list-style-type: none"><li>• Bridge 12 (QR pedestrian bridge to Mayne West) complete structural steel and stair installation ongoing;</li><li>• Pier protection under Inner City Bypass commenced;</li><li>• Backbone UTX to RMC completed; and</li><li>• Mayne East hydraulics commenced.</li></ul>
Northern Area	<b>RNA/ Northern Corridor –</b> <ul style="list-style-type: none"><li>• Southern platform FRP commenced;</li><li>• Station plaza FRP incl lift shafts and Pre-cast stair installation on schedule;</li><li>• Structural Steel on platform and plaza installation ongoing;</li><li>• Installation of underslung services commenced;</li><li>• FRP Piers on BR44, four of nine completed, falsework commenced;</li><li>• signal cut-over complete for arrival platform at RNA; and</li><li>• Drainage commenced at Northern portal.</li></ul> <b>Northern Portal –</b> <ul style="list-style-type: none"><li>• Physical works complete; and</li><li>• Open through bracket installations and ducting have been completed at the Dive.</li></ul>
Central Area	<b>Roma Street –</b> <ul style="list-style-type: none"><li>• Main Station Building Entry Main Station roof slab ongoing, Canopy slab piling complete and pile cap excavation commenced, service installation progressing;</li><li>• M&amp;E building roof works approaching completion, Services installation and fit-out progressing, HV transformers installed and connection works progressing; and</li></ul>

	<ul style="list-style-type: none"> <li>Cavern Precast Platform slabs and in-situ slab concrete 60% complete, BoH East and West services installation continues.</li> </ul> <p><b>Albert Street –</b></p> <ul style="list-style-type: none"> <li>Lot 1 – slip cycles to ground level work ongoing, Commenced works for internal jump form lift and continued blockwork on B10 level;</li> <li>Lot 2 – platform culverts ongoing; Completed mezzanine loader demobilisation, completed AS1 shaft internal wall FRP; and</li> <li>Lot 3 – L0 suspended slab ongoing and tower crane removal.</li> </ul> <p><b>Woolloongabba –</b></p> <ul style="list-style-type: none"> <li>Station Perimeter walls: SW3 North is at lift ongoing. Reo install ongoing. SW5 Northern section at lift ongoing. SW4 arch reo installation ongoing. SW5 south wall climbers demobilization completed;</li> <li>Mezzanine beam installation ongoing. Span 5 post tensioning ongoing;</li> <li>Southern Cavern PSD top frames installation ongoing, Mezzanine soffit installation ongoing, Patching and Insulation works under mezzanine continued and fixing for tunnel services structures commenced; and</li> <li>North Cavern SW4 arch access established and stressing for mezzanine beams completed.</li> </ul> <p><b>Tunnel fitout –</b></p> <ul style="list-style-type: none"> <li>Fitout work was on hold in G2A, A2R and R2NP in MC01 and MC02;</li> <li>A2R MC01 Rising Main Pipe install ongoing.</li> <li>MC02 Hydrant Pipe install ongoing;</li> <li>G2A Rising main install ongoing in MC01;</li> <li>Walkway install ongoing in both MC01 &amp; MC02. Fire rated Brackets install ongoing in MC02;</li> <li>R2NP Walkway Mesh install complete along with under walkway containment in MC01 and continuing in MC02; and</li> <li>Fire rated cable ladder complete in MC02. Leaky Feeder cable pulling resumed in MC02.</li> </ul> <p><b>Boggo Road –</b></p> <ul style="list-style-type: none"> <li>Concrete to in-situ structure ongoing;</li> <li>Reinforcement to in-situ structure ongoing;</li> <li>Mezzanine precast trusses ongoing;</li> <li>Precast platform culverts and planks – ongoing;</li> <li>Super T's – ongoing;</li> <li>Ongoing installation of Goods Lift 2; and</li> <li>M&amp;E fitout continuing in northern and Southern Back of House.</li> </ul> <p><b>Southern Portal –</b></p> <ul style="list-style-type: none"> <li>Internal tunnel roof soffit and concrete works in MC02 ongoing;</li> <li>Commenced FRP works to retention walls in internal roof void;</li> <li>Shotcrete of liner walls in open trough area ongoing;</li> <li>Retention basin and outlet drainage works ongoing;</li> <li>Princess Alexandra Hospital (PAH) Bridge progressing abutment walls, piers and headstocks;</li> <li>Delivery and installation of girders for Eastern approach; and</li> <li>Sump shaft works ongoing with caisson rings delivered on-site.</li> </ul>
<b>Southern Area</b>	<p><b>Southern / Dutton Park –</b></p> <ul style="list-style-type: none"> <li>Ongoing works for Platform 1 retaining walls on Cope St &amp; station entry / walkway on Kent St;</li> <li>Platform 01 – preparatory works for commencing platform slabs;</li> <li>Platform 02 – installation of platform walls; and</li> <li>Noise walls progress Sampson Street and Fenton Street.</li> </ul> <p><b>Fairfield station –</b></p> <ul style="list-style-type: none"> <li>Installation of property pole (third one), Energex connection and energisation of the Main Switch board bringing permanent power onto the site;</li> </ul>



- Installation of all electrical boards and progress for terminations, testing, fit-out onsite;
- Installation of all comms, security system racks into CER and field cabinets and progress for terminations, testing, fitout onsite;
- Commence construction of Equity Street PWD & QR carpark following design update;
- Continuation of Mildmay St & Equity St hardscaping (footpaths, bollards, seating); and
- Continuation of station building fit out works.

**Yeronga station –**

- Completion and certification of the station remains ongoing.

**Clapham Yard –**

- Bridge BR94 (Chale Street Bridge) retaining wall 645 ongoing; and
- The installation of the Dual Gauge, Dual Gauge Loop, Holding Road 1 and Holding Road 2 trackwork within Clapham Yard, including OHW foundation and structure installation.

**Rocklea station –**

- Installation of new overpass modules, screens, roofing, guttering;
- Installation of temporary scaffold stairs to enable construction access;
- Demolition & removal of existing overpass structure;
- Installation of first coping stone & tactiles for Rocklea – on PL2;
- Fabrication in progress for steel items;
- Installation of Lift # 2 glazing; and
- Ongoing construction of retaining walls, foundations, and slabs at station entrance.

## 2.2. Key Environmental Elements

### 2.2.1. Noise

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

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

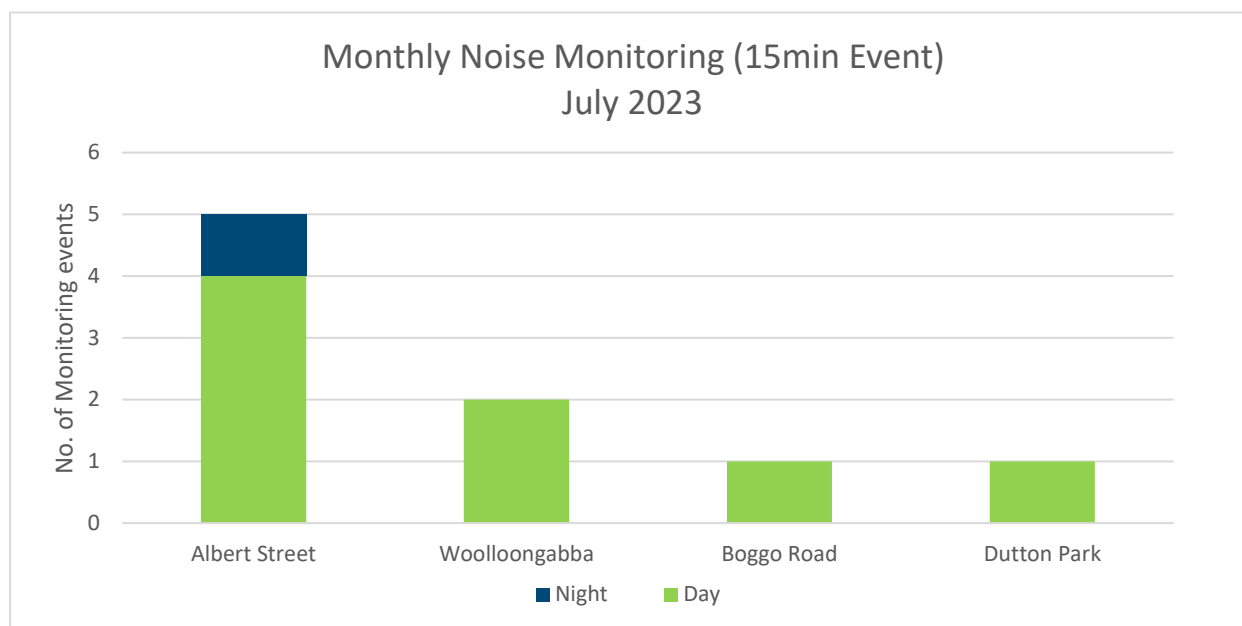
Where internal monitoring was not possible, contractors have undertaken external monitoring at nominated locations. To assess external monitoring and determine compliance with the project's noise requirements, the project applies recommended façade attenuation corrections, which considers receiver property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

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



In the Southern Area, noise monitoring was undertaken for model verification at Dutton Park during the soil nailing works. The RIS contractor reported that project noise requirements have been met including advance notification and consultation with DAPs.

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



### 2.2.2. Vibration

In the Central Area, vibration monitoring occurred at the Roma Street, Woolloongabba and Albert Street worksites. All 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 (PM<sub>10</sub>) and total suspended particulates (TSP) was conducted at Northern, Central and Southern Area worksites. Results met the project goals at all active worksites.

In the Mayne Area, the Dust Monitor Pro (DMP) located at Mayne Yard East was removed from site for its annual calibration by the supplier. 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** (Figures 4 and section 3.1.11.2).

In the Central Area, the TSD contractor confirmed that the Woolloongabba and Boggo Road air quality monitoring units experienced technical difficulties between 3 and 6 July 2023 and 28 and 31 July 2023 respectively. As soon as practicable, the units were inspected and the problems were resolved. The nearby (South Brisbane and Woolloongabba) DES air quality monitoring stations confirmed air quality levels were below the air quality goals during these outage periods. Refer to **Appendix B** (Table 5).

In the Southern Area, Clapham Yards' DMP failed to record a sufficient volume of data to be considered valid between 15 and 31 July 2023. This was a result of ongoing battery charging issues. As a result, UNITY undertook an investigation to provide supporting information validated by the CAQP to confirm the RIS scope of works has met the project outcomes set out by the CGCR and OEMP. The investigation consisted of a range of factors including current works on site and staging, implemented mitigation measures, meteorological conditions and if there were any air quality related complaints. The investigation confirmed that UNITY's scope of works and implementation of their Air Quality Management Plan has met the project outcomes set out by the Imposed Conditions. Refer to **Appendix A** (Figures 5 and section 3.1.11.3).

UNITY has confirmed that a long-term rectification strategy is progressing and encompasses additional air quality modelling to determine if monitoring of particulates is required for current and future works and the installation of a brand-new air quality monitor that was delivered to site in July 2023 and will be commissioned August 2023.

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 removed from site for annual calibration - Project outcomes met
Northern Area	RNA / Exhibition	RNA showgrounds	- Results met air quality goals.
	Northern Portal	Brisbane Girls Grammar School	- Results met air quality goals.
Central Area	Albert St	iStay River City and Capri (Corner of Mary Street and Albert Street)	- Results met air quality goals.
	Boggo Rd / Southern Portal	North-east of Boggo Road worksite	- Results met air quality goals. - Technical difficulties encountered between 28 and 31 July 2023
	Woolloongabba	Place Park, Woolloongabba	- Results met air quality goals. - Technical difficulties encountered between 3 and 6 July 2023
Southern Area	Clapham Yard	Clapham Yard	- Results met air quality goals. - No monitoring results reported between 15 and 31 July 2023. - Project outcomes 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 July 2023, active surface water discharges occurred in the Northern Area and Central Area. Post-rainfall water quality monitoring was triggered in the Southern Area and routine surface water monitoring was undertaken in the Central Area.

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

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

In the Southern Area, post rainfall monitoring was triggered at Clapham Yard and Rocklea due to a rainfall event that occurred on 4 July 2023. Downstream monitoring locations exhibited more than 10% increase in turbidity (NTU), triggering further investigation. This investigation confirmed that the RIS scope of works were compliant with the outcomes of the Water Quality Management Plan and the Coordinator-Generals Imposed Conditions were met. Refer to **Appendix B** (Table 10 and Section

3.1.13.1) for further details.

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

Surface water quality monitoring is summarised in the table below:

Surface Water Quality Monitoring					
Area	Worksite	Discharge	Post-Rain Monitoring	Routine Monitoring	Comments
Mayne Area	Mayne Yard North	Yes	No	No	<ul style="list-style-type: none"> <li>- Active surface water discharge met water quality investigation criteria.</li> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>
Northern Area	Exhibition/ RNA	No	No	No	<ul style="list-style-type: none"> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>
	Northern Portal	Yes	No	Yes	<ul style="list-style-type: none"> <li>- Active surface water discharge met water quality investigation criteria.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP</li> </ul>
	Northern Corridor	No	No	N/A	<ul style="list-style-type: none"> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>
Central Area	Albert Street	No	No	Yes	<ul style="list-style-type: none"> <li>- Routine in-stream monitoring undertaken in accordance with WQMP</li> </ul>
	Boggo Road	No	No	Yes	<ul style="list-style-type: none"> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
	Roma Street	No	No	Yes	<ul style="list-style-type: none"> <li>- Routine in-stream routine monitoring undertaken in accordance with WQMP.</li> </ul>
	Woolloongabba	No	No	Yes	<ul style="list-style-type: none"> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
	Southern Portal	Yes	No	Yes	<ul style="list-style-type: none"> <li>- Active surface water discharge met water quality investigation criteria.</li> <li>- Routine in-stream monitoring undertaken in accordance with WQMP.</li> </ul>
Southern Area	Fairfield station	No	No	No	<ul style="list-style-type: none"> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> </ul>

	Clapham Yard	No	Yes	No	<ul style="list-style-type: none"> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> <li>- Post rainfall monitoring undertaken</li> </ul>
	Rocklea station	No	Yes	No	<ul style="list-style-type: none"> <li>- ESC was implemented in accordance with site specific ESC Plan.</li> <li>- Post rainfall monitoring undertaken</li> </ul>

#### 2.2.4.2. Groundwater

Groundwater discharge occurred at Albert Street, Boggo Road, Roma Street and Woolloongabba worksites. The groundwater discharge results exceeded relevant water quality objectives (WQO's)<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
Mayne Area	Mayne Yard North	No	- No groundwater discharges.
Northern Area	RNA/Exhibition	No	- No groundwater discharges.
	Northern Portal	No	- No groundwater discharges.
Central Area	Albert Street	Yes	- Discharge of groundwater met Project requirements
	Boggo Road / Southern Portal	Yes	- Discharge of groundwater met Project requirements
	Roma Street	Yes	- Discharge of groundwater met Project requirements
	Woolloongabba	Yes	- Discharge of groundwater met Project requirements
Southern Area	Clapham Yard	No	- No groundwater discharges.

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



### 2.2.5. Erosion and Sediment Control

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

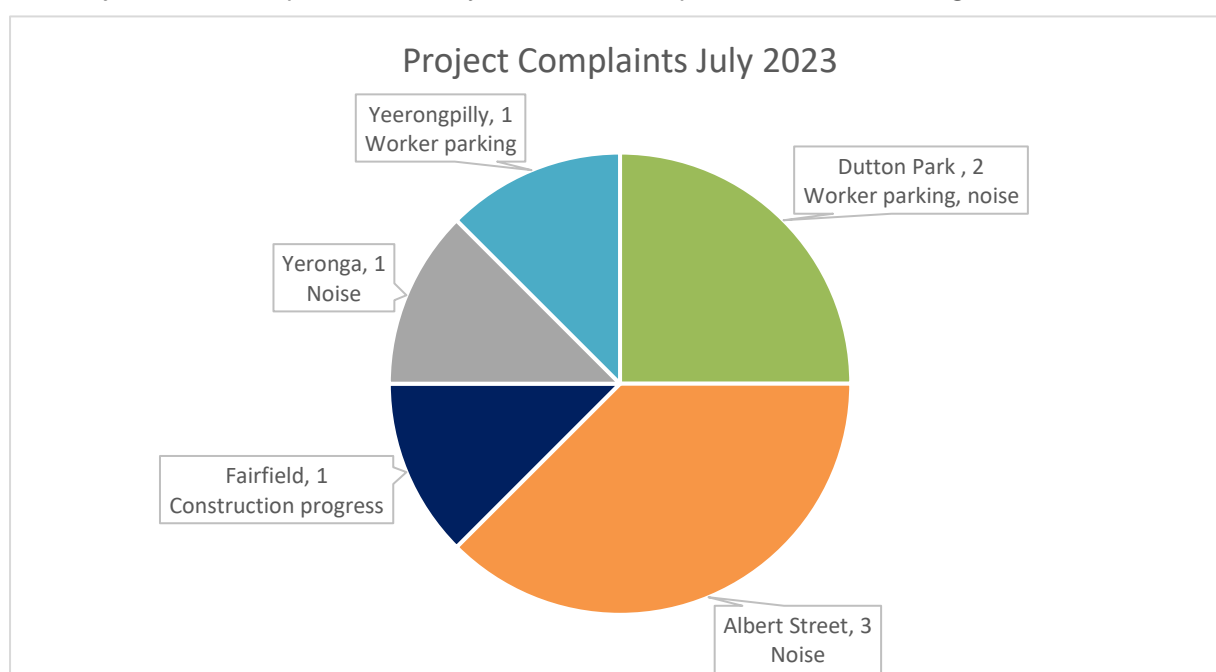
## 2.3. Complaints Management

A total of ten complaints were received during the month, of which eight were project related.

RIS works received five complaints during July relating to worker parking at Yeerongpilly, construction progress at Fairfield, worker parking and noise at Dutton Park, and noise at Yeronga. For further details and breakdown of complaints, refer to **Appendix A** (Table 3).

The TSD works received three complaints related to noise at Albert Street. For further details and breakdown of complaints, refer to **Appendix B** (Table 10).

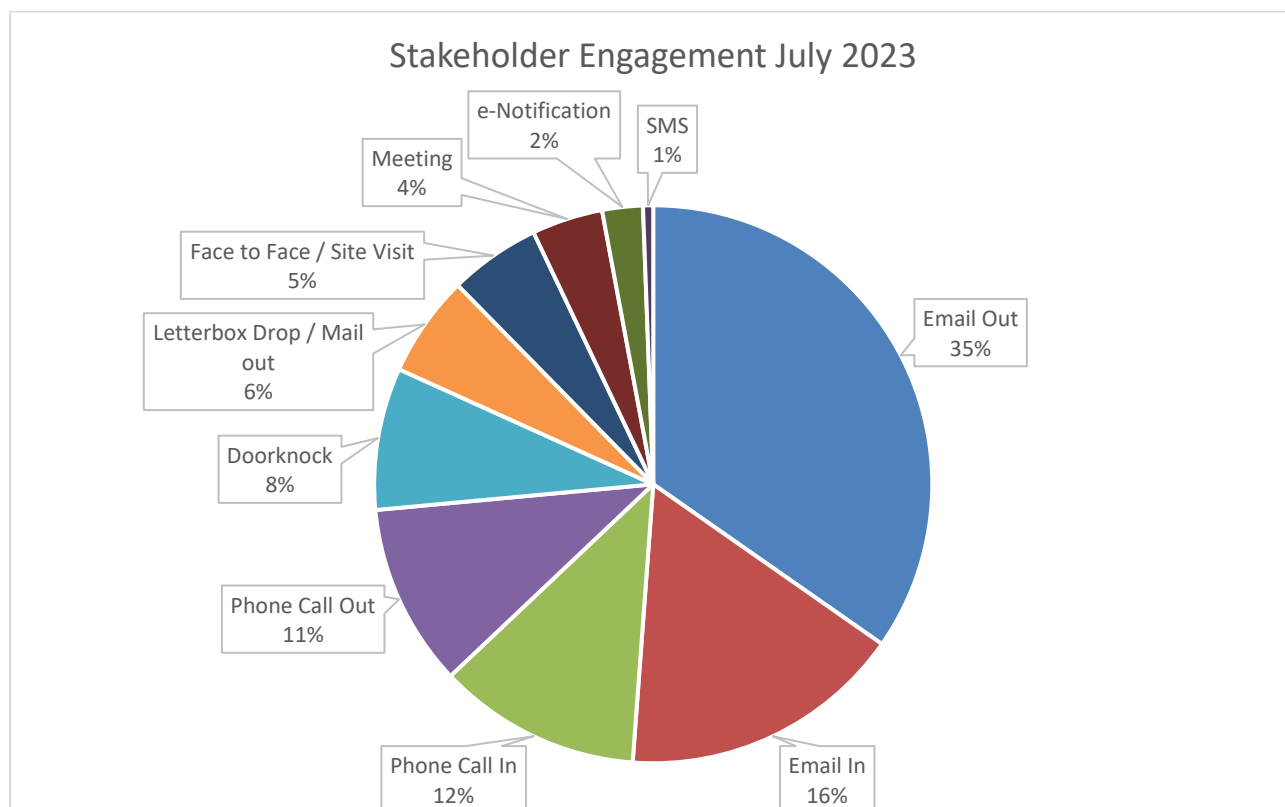
The Project Works complaints summary for the month is provided in the following chart.



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 summarised in the chart below.



## 2.4. New Upcoming Project Works

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

Area	New planned works in the coming months
Mayne Area	<b>Mayne Yard North –</b> <ul style="list-style-type: none"> <li>Handover of Vehicle Access Road to QR 17 Jul '23.</li> </ul> <b>Mayne Yard East / West –</b> <ul style="list-style-type: none"> <li>Completion of Bridge 12;</li> <li>Shunter Shed East FRP and Structural Steel;</li> <li>Axillary Buildings commence FRP;</li> <li>RIS-N-7A.1 completion;</li> <li>CER foundation / CSR to Coms Team; and</li> <li>CSR commenced in Mayne Yard East.</li> </ul>
Northern Area	<b>RNA / Exhibition –</b> <ul style="list-style-type: none"> <li>Bridge BR44 first span poured;</li> <li>Platform FRP; and</li> <li>Ekka bump-in period commences 17 July. Team is clearing laydown area and will commence rehab and walk-throughs with RNA.</li> </ul> <b>Northern Corridor –</b> <ul style="list-style-type: none"> <li>Commence RMAR pavements around Norther Portal; and</li> <li>Commence Drainage at Northern Portal.</li> </ul> <b>Northern Portal –</b> <ul style="list-style-type: none"> <li>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 crown duct installation;</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>• Pavilion pile break back and capping beam construction; and</li> <li>• M&amp;E Services Building B1 to B4 service installation &amp; cable tray installation.</li> </ul> <p><b>Albert Street –</b></p> <ul style="list-style-type: none"> <li>• Lot 1 – slip FRP works ongoing and complete B7 suspended slab;</li> <li>• Lot 2 – Complete northern topping slab and RIS Room blockwork and commence BoH (north) goods lift FRP; and</li> <li>• Lot 3 – internal lift core 1 &amp; 2 jump 9 of 11 and perimeter wall jump pours ongoing.</li> </ul> <p><b>Woolloongabba –</b></p> <ul style="list-style-type: none"> <li>• Escalators installation ongoing;</li> <li>• RMU rooms HV power connection to B7 transformers to occur in August. Handback of RMU rooms to Energex is planned for September;</li> <li>• RIS rooms epoxy flooring; and</li> <li>• Telstra comms pit on Main St footpath to be constructed after the Energex pit is completed.</li> </ul> <p><b>Boggo Road –</b></p> <ul style="list-style-type: none"> <li>• Ongoing precast platform culverts and vierendeel truss 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>• Boggo Road south – last deck units to be installed;</li> <li>• MC01 and MC02 roof 'ski jump';</li> <li>• Western and eastern abutment construction;</li> <li>• Ongoing sewer works at Dutton Street; and</li> <li>• Major SCAS works in September 2023.</li> </ul> <p><b>Southern / Dutton Park –</b></p> <ul style="list-style-type: none"> <li>• Continue works for Platform 1 retaining walls on Cope St and station entry/ walkway on Kent St;</li> <li>• Platform 1 continue preparatory works of platform slabs;</li> <li>• Platform 2 continue installation of platform walls; and</li> <li>• Noise walls installation progressing at Sampson St and Fenton St.</li> </ul>
Southern Area	<p><b>Fairfield Station –</b></p> <ul style="list-style-type: none"> <li>• Continuing terminations, testing and fit-out onsite;</li> <li>• Equity St PWD and QR carpark works;</li> <li>• Continue hardscaping of Mildmay and Equity St; and</li> <li>• Continuation of station building fit out works.</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>• Aurizon fence (on top of RW650);</li> <li>• Driveways and stone pitching along Fairfield Road;</li> <li>• Civil Works – CSR works ongoing;</li> <li>• Track Works – Tamping of DG, DGL, HR1 &amp; HR2 commences;</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> <p><b>Rocklea Station –</b></p> <ul style="list-style-type: none"> <li>• Ongoing construction of retaining walls, foundations and slabs at station entrance;</li> <li>• Continue platform slab pours;</li> <li>• Continue structural steel installation; and</li> <li>• Overpass fit-out works.</li> </ul>

## 2.5 Non-Compliance Events

In July 2023 the Fairfield out of hours potential NCE was confirmed as an NCE after extensive investigation. The NCE relates to the following two conditions:

- Condition 4(d) - "The Construction Environmental Management plan must be implemented for the duration of Relevant Project works."
- Condition 10(d) – "Extended Construction Hours of works may only be undertaken subject to compliance with a specific Construction Environmental Management Plan sub-plan in accordance with Condition 4."

The NCE was confirmed against these two conditions from the initial notification by the Independent Environmental Monitor. Required notification and reporting have been completed in accordance with the Coordinator-General's Imposed Condition 5. The NCE report will be made available on the CRR website.

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

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

Gate 1 - EM notification to contractor. NCE confirmed

Gate 2 - 48 hour NCE notification submitted to CG

Gate 3 - 14 day report submitted

Gate 4 - 14 day report uploaded to CRR website

# Appendix A RIS Monthly Report



# **Monthly CGCR Report July 2023**

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

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# 1 Progress Summary - Relevant Project Works

The following Project Works were undertaken during the reporting period:

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

Area	Project Works
Mayne Area	<b>Mayne Yard North</b> <ul style="list-style-type: none"> <li>Mayne Yard North, Graffiti Removal Facility, QR requested modifications on train gates - completed</li> <li>RIS-N-C6.1 (QR Vehicle access road to RTCB) completed and ready for handover to QR</li> <li>CRR-Line embankment Surcharge Loading Stage 2 commenced</li> <li>BR08 (Breakfast Creek Bridge) temporary jetty removal completed.</li> </ul> <b>Mayne Yard East / West</b> <ul style="list-style-type: none"> <li>BR12 (QR pedestrian bridge to Mayne West) complete structural steel and stair installation ongoing, handover to TP&amp;C mid-month</li> <li>RC11 pier protection under ICB commenced</li> <li>Backbone UTX to RMC completed (critical for Shunter Shed - East)</li> <li>Mayne East hydraulics commenced (fire/water/sewer relocation of existing).</li> </ul>
Northern Area	<b>RNA / Exhibition</b> <ul style="list-style-type: none"> <li>Southern platform FRP commenced</li> <li>Station plaza FRP incl lift shafts and Pre-cast stair installation on schedule</li> <li>Structural Steel on platform and plaza installation in EXT-20 on schedule</li> <li>Installation of underslung services commenced</li> <li>FRP Piers on BR44, four of nine completed, falsework commenced</li> <li>Inground services including electrical, comms, stormwater, sewer, and wet fire.</li> </ul> <b>Northern Corridor</b> <ul style="list-style-type: none"> <li>EXT-20 SCAS critical scope elements successfully completed</li> <li>All earthworks completed for RIS-N-10</li> <li>ME39 signal cut-over complete for arrival platform at RNA</li> <li>Drainage commenced at Northern portal.</li> </ul>
Southern Area	<b>Southern Portal / Dutton Park</b> <ul style="list-style-type: none"> <li>Ongoing works for Platform 1 retaining walls on Cope St &amp; station entry / walkway on Kent St</li> <li>Platform 01 – preparatory works for commencing platform slabs</li> <li>Platform 02 – installation of 40% of platform walls</li> <li>Noise walls progress Sampson Street and Fenton Street.</li> </ul>
Southern Area	<b>Fairfield Station</b> <ul style="list-style-type: none"> <li>Installation of property pole (third one), Energex connection and energisation of the MSB bringing permanent power onto the site</li> <li>Installation of all electrical boards and progress for terminations, testing, fit-out onsite.</li> <li>Installation of all comms, security system racks into CER and field cabinets and progress for terminations, testing, fit-out onsite.</li> <li>Commence construction of Equity Street PWD &amp; QR carpark following design update.</li> <li>Continuation of Mildmay St &amp; Equity St hardscaping (footpaths, bollards, seating).</li> <li>Continuation of station building fit out works.</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>

Area	Project Works
Southern Area	<b>Clapham Yard</b> <ul style="list-style-type: none"> <li>BR94 (Chale Street Bridge) RSS wall RW645 commenced.</li> <li>The installation of the Dual Gauge, Dual Gauge Loop, Holding Road 1 and Holding Road 2 trackwork within Clapham Yard is progressing well, as is the OHW foundation and structure installation.</li> </ul>
Southern Area	<b>Rocklea Station</b> <ul style="list-style-type: none"> <li>Installation of new overpass modules, screens, roofing, guttering</li> <li>Installation of three sets of temporary scaffold stairs to enable construction access</li> <li>Demolition &amp; removal of existing overpass structure</li> <li>Installation of first coping stone &amp; tactiles for Rocklea – on PL2</li> <li>Fabrication in progress for steel items</li> <li>Installation of Lift # 2 glazing</li> <li>Ongoing construction of retaining walls, foundations, and slabs at station entrance.</li> </ul>

**Acronyms:**

*CIP – Cast in Situ Piles*

*CSR – Combined Services Route*

*DL – Drainage Line*

*FRP – Form Reo Pour*

*HV – High Voltage*

*OHLE – Overhead Line Equipment*

*OTV – On Track Vehicle*

*PUP – Public Utility Plant*

*RNA - Royal National Agricultural and Industrial Association of Queensland*

*R&R – Remove and Replace*

*RSS – Reinforced Soil Slopes*

*RW – Retaining Wall*

*SCAS – Scheduled Corridor Access Schedule*

*UTX – Under Track Crossing*

The following table summarises the upcoming Project Works:

Table 2: Summary of upcoming Project Works

Area	Project Works
Mayne Area	<b>Mayne Yard North</b> <ul style="list-style-type: none"> <li>Handover of Vehicle Access Road to QR 17 Jul '23 (north of Ferny Grove Flyover).</li> </ul> <b>Mayne Yard East / West</b> <ul style="list-style-type: none"> <li>Completion of BR12</li> <li>Shunter Shed East FRP and Structural Steel</li> <li>Axillary Buildings commence FRP</li> <li>RIS-N-7A.1 completion</li> <li>CER foundation / CSR to Coms Team</li> <li>CSR commenced in Mayne Yard East.</li> </ul>
Northern Area	<b>RNA / Exhibition</b> <ul style="list-style-type: none"> <li>BR44 first span poured</li> <li>Platform FRP 50% poured</li> <li>Ekka bump-in period commences 17 July. Team is clearing laydown area and will commence rehab and walk-throughs with RNA.</li> </ul> <b>Northern Corridor</b> <ul style="list-style-type: none"> <li>Commence RMAR pavements around Norther Portal</li> <li>Commence Drainage at Northern Portal.</li> </ul>
Southern Area	<b>Southern Portal / Dutton Park</b> <ul style="list-style-type: none"> <li>Continue works for Platform 1 retaining walls on Cope St &amp; station entry</li> <li>Platform 01 – continue preparatory works for platform slabs</li> <li>Platform 02 – continue installation of platform walls</li> <li>Noise walls progress</li> </ul>
Southern Area	<b>Fairfield Station</b> <ul style="list-style-type: none"> <li>Continuing terminations, testing and fit-out onsite</li> <li>Equity St PWD and QR carpark works</li> <li>Continue hardscaping of Mildmay and Equity St</li> <li>Continuation of station building fit out works.</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>Clapham Yard</b> <ul style="list-style-type: none"> <li>Aurizon fence (on top of RW650)</li> <li>Driveways and stone pitching along Fairfield Road.</li> <li>Civil Works – CSR works ongoing.</li> <li>Track Works – Tamping of DG, DGL, HR1 &amp; HR2 commences</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>Rocklea Station</b> <ul style="list-style-type: none"> <li>Ongoing construction of retaining walls, foundations and slabs at station entrance</li> <li>Continue platform slab pours</li> <li>Continue structural steel installation</li> <li>Overpass fit-out works.</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
Monday, 03 July 2023	Dutton Park	Noise	Station upgrade works	July 2023	Stakeholder complained about a loud engine or machinery noise and their sleep was disturbed.	The team confirmed no works were occurring during night shift. Further investigation confirmed a stormwater diversion triggered by rainfall may have caused the noise. The site team rectified the diversion the following day.	Closed
Thursday, 06 July 2023	Yeronga	Noise	Station upgrade works	July 2023	Stakeholder complained about impact of construction disturbance to their friend who resides nearby Yeronga Station.	The team advised that the project has maintained communication with the resident throughout construction and will continue to do so until minor works are completed. The team advised their feedback will be shared with the wider project team.	Closed
Saturday, 15 July 2023	Dutton Park	Workforce parking	Station upgrade works	July 2023	Stakeholder complained about workforce parking on Annerley Road.	Team advised that the issue was raised with the site team and will be addressed during pre-starts.	Closed

Date Received	Location	Issue	Project Works / Activity source of the concern	Reporting Period	Complaint Detail	Unity Response	Status
Monday, 17 July 2023	Fairfield	Station accessibility	Station upgrade works	July 2023	Stakeholder complained about duration of Fairfield Station accessibility	<p>Team advised that whilst many features of the station upgrade were completed, complex construction was still being completed.</p> <p>Stakeholder was advised that the lifts and other areas will gradually become available to the public until the end of 2023.</p>	Closed
Thursday, 20 July 2023	Yeerongpilly	Noise and workforce parking	Station upgrade works	July 2023	Stakeholder complained about noise in front of her unit complex and cars blocking driveway access.	<p>Team advised that their feedback would be passed on to the site team and will continue to be monitored.</p> <p>Stakeholder was also provided the most recent Yeerongpilly Station construction notice.</p>	Closed



## 3 Environmental Monitoring Results

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

### Acoustics

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

#### 3.1.1 Noise Monitoring

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

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

#### 3.1.2 Noise Monitoring Results

Table 4 Summary of Noise Monitoring Data

Location	Receiver Type Details	Type of Monitoring	Work Hours	Monitoring date and time	Noise Type	Purpose of Monitoring	Predictive model (dBA)	Performance Goal 1 (dBA) (Condition 11(a), Table 2, LA <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
Dutton Park	Residential	Attended – outdoors	Standard Hours	Saturday, 15 July 2023 09:55am	Intermittent	Model verification	58 dBA	65 dBA	85 dBA	63 dBA	61 dBA	Yes – Case by case consultation & Generic notification	No	Monitoring was completed around 38m away from the works. The soil nailing rig was the dominant noise source. Monitoring was undertaken to validate the predictive noise model as this activity had not previously been monitored in this location. Intensive soil nailing was not undertaken during monitoring as planned due to the soil structure being soft enough to not require intensive nailing. Works are compliant with CG condition 11(c) as advance notification and consultation was undertaken with DAPs.

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

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

### 3.1.3 Vibration Monitoring

Vibration monitoring to validate the predictive model was not triggered.

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

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

### 3.1.4 Vibration Monitoring Results

Table 5 Summary of Vibration Data

Location	Date (Start and Finish)	Time of day	Closest DAP / Sensitive Place	Receiver Type (table 3 – Imposed Condition 11(e))	Purpose of Monitoring	Vibration intensive equipment	Maximum predicted vibration level	Shortest distance between Equipment and Sensitive Place @Time of Monitoring"	Maximum recorded vibration level	Vibration goal for receiver	Exceedance of vibration limit?	Comments
Nil – not triggered												

### 3.1.5 Interpretation

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

### 3.1.6 Noise Monitoring

#### 3.1.6.1 Model verification

Noise monitoring for model verification was triggered during the reporting period for the use of a soil nail rig for soil nailing.

The soil nailing was undertaken as part of the rail corridor upgrade works associated with the upgrade of Dutton Park Station during a weekend SCAS.

Predictive modelling anticipated a noise level of 58 dBA LA<sub>10</sub> (external). Attended outdoors noise monitoring confirmed that the actual noise level was lower than the predicted noise level.

The variance between predicted vs actual noise levels was most likely due to the soil nail rig not requiring the use of the intensive setting to complete the works. The noise model uses the intensive setting to guide its predictive noise level for soil nail rigs. The intensive setting was not required at Dutton Park due to the soil conditions being soft enough to penetrate without it.

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

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

### 3.1.7 Vibration Monitoring

Vibration monitoring was not triggered during the monitoring period.

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

## Air Quality

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

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

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

Table 6 Summary of Air Quality monitoring devices

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
Dust Deposition Gauge	RNA Showgrounds	AQ-01	13 December 2019	Active
Dust Deposition Gauge	Mayne Yard (Eastern Air Shed)	AQ-04	13 February 2020	Active
Dust Deposition Gauge	Clapham Yard (Eastern Air Shed)	AQ-06	1 February 2021	Active

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
Dust Deposition Gauge	Yeronga Station	AQ-07	12 August 2021	Inactive DDG was decommissioned on 10 December 2021 following the completion of earthworks
Dust Deposition Gauge	Dutton Park	AQ-08	8 July 2022	Active
TSP / PM <sub>10</sub> Monitor	Mayne Yard North (Eastern Air Shed)	Mayne Yard North	26 August 2022	Inactive as of 11 May 2022 CAQP confirmed that the Mayne Yard DMP can be temporarily decommissioned following the completion of Mayne Yard North earthworks. DMP was reinstated for Mayne Yard East Works on 26 August 2022 – see below.
TSP / PM <sub>10</sub> Monitor	Mayne Yard East (Eastern Air Shed)	Mayne Yard East	26 August 2022	Inactive during reporting period. DMP was sent out for annual calibration to the supplier in NSW on 5 June 2023.
TSP / PM <sub>10</sub> Monitor	Clapham Yard (Eastern Air Shed)	Clapham Yard	9 August 2021	Partially active during reporting period. Insufficient data recorded between 15 – 31 July 2023.
TSP / PM <sub>10</sub> Monitor	RNA (Western Air Shed)	RNA	25 August 2020	Active during reporting period.

### 3.1.8 Dust results

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

- Mayne Yard, Dutton Park & Clapham Yard:
  - 09 June 2023 to 11 July 2023
- RNA:
  - 12 June 2023 to 11 July 2023

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

*Table 7 Dust deposition gauge results for the reporting period*

CGCR Goal (mg/m <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	40	60	23	53
Total Rainfall during Period (mm)	18.0	15.1	37.2	17.8

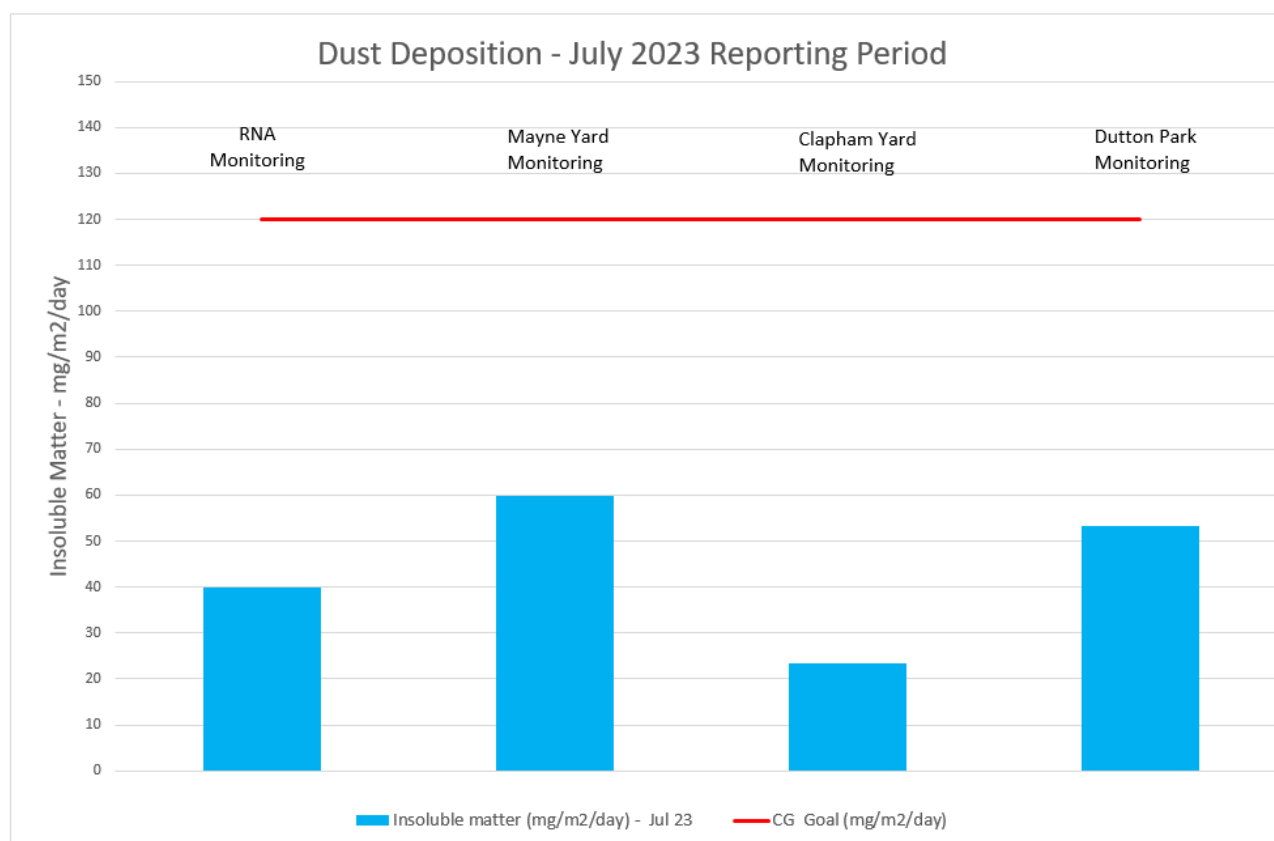


Figure 1 Air Quality Monitoring (Deposited Dust) Results

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

### 3.1.9 Particulates Results

#### 3.1.9.1 Air Quality Monitoring Stations

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

#### 3.1.9.2 Monitoring Results – Reporting Period

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

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

PM<sub>10</sub> is one of the indicators for which the Coordinator-General has imposed a goal of 50  $\mu\text{g}/\text{m}^3$  (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

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



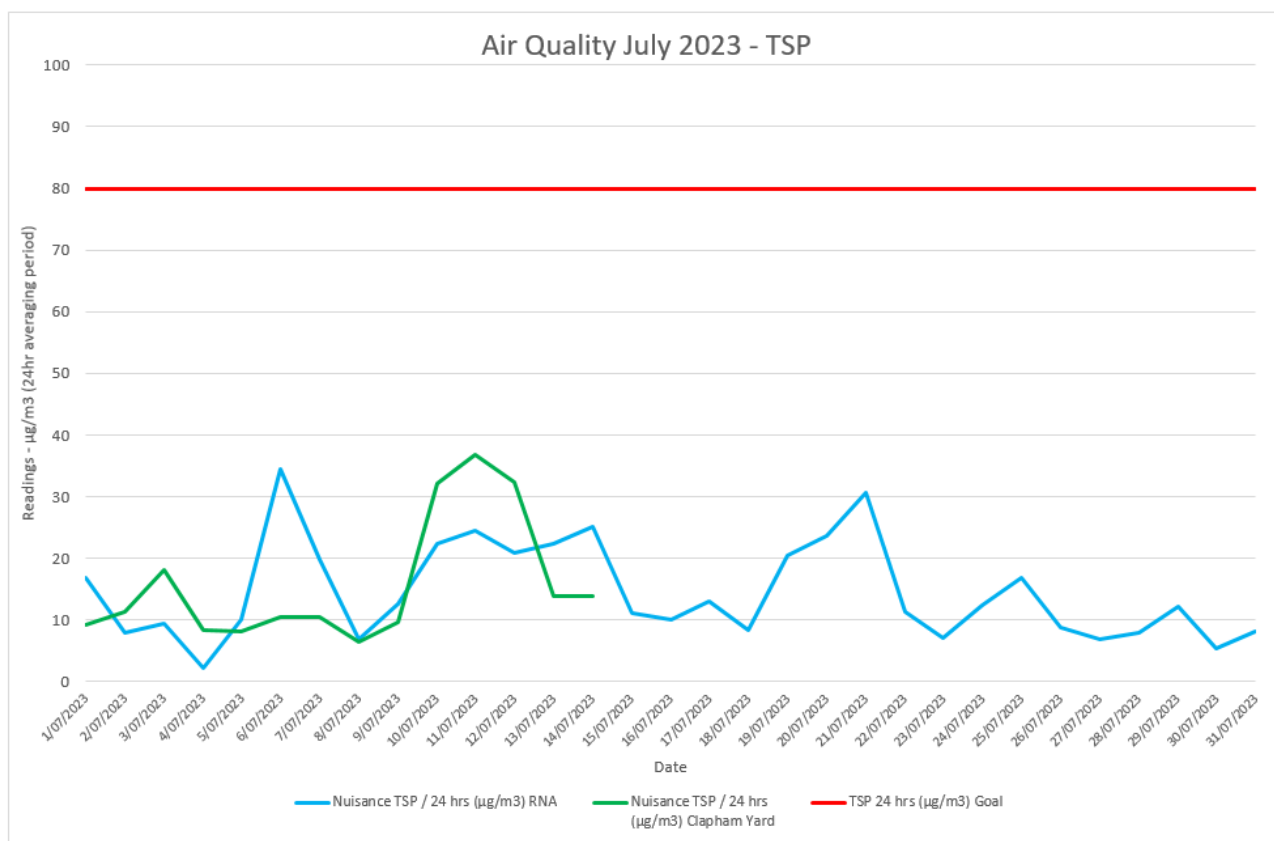


Figure 2 Air Quality Monitoring (TSP) Results

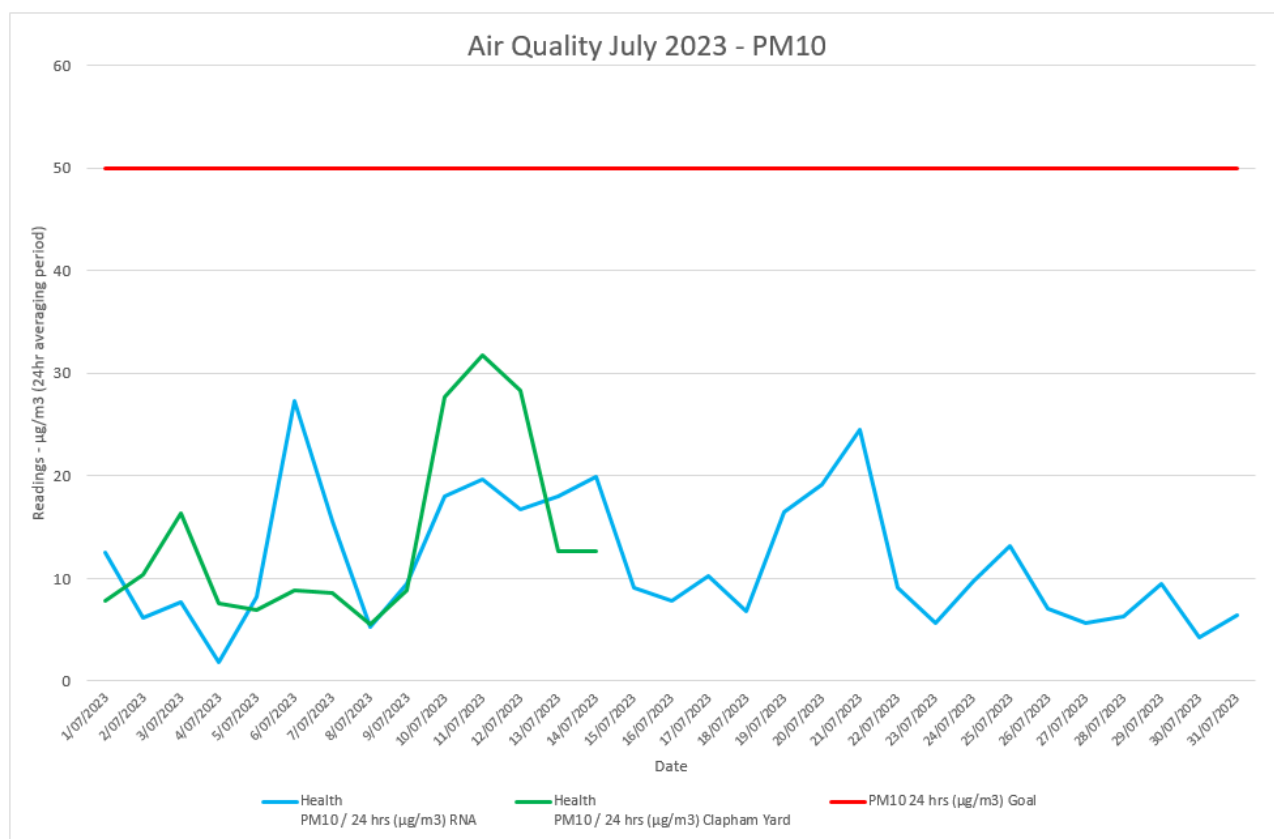


Figure 3 Air Quality Monitoring (PM10) Results

### 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 311 days	<b>Period 1</b> 68% Over 311 days	<b>Not yet applicable for Period 1</b> Data capture has not yet met minimum data capture requirements
TSP / PM <sub>10</sub> Monitor	RNA (Western Air Shed)	11 June 2020	Not yet decommissioned	<b>Period 1</b> (to 11 June 2021) 314 over 365 days <b>Period 2</b> (12 June 2021 to 12 June 2022) 290 over 365 days <b>Period 3</b> (Started 13 June 2022) 310 over 365 days <b>Period 4</b> (Started 14 June 2023) 48 over 49 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> 98% Over 49 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) 112 over 181 days	<b>Period 1</b> 90% over 364 days <b>Period 2</b> 57% Over 365 days <b>Period 3</b> 62% Over 181 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>	Not yet applicable	18 µg/m <sup>3</sup>	8 µg/m <sup>3</sup>
		Period 2	-	10 µg/m <sup>3</sup>	-	15 µg/m <sup>3</sup>	16 µg/m <sup>3</sup>
		Period 3	-	Not applicable	-	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>	Not yet applicable	11 µg/m <sup>3</sup>	5 µg/m <sup>3</sup>
		Period 2	-	7 µg/m <sup>3</sup>	-	10 µg/m <sup>3</sup>	14 µg/m <sup>3</sup>
		Period 3	-	Not yet applicable	-	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 particulate results exceeded their relevant goals for TSP and 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 out for annual calibration
- The Clapham Yard DMP did not record sufficient data from the 15 – 31 July 2023.

#### 3.1.11.2 Mayne Yard East July Interpretation

Due to the DMP requiring annual calibration by the supplier interstate there was no data recorded 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.

##### 3.1.11.2.1 UNITY Works

During the reporting period Mayne Yard East Works consisted of BR 12 structures and steel install, RC11 pier protection, UTX works and hydraulic works.

### 3.1.11.2.2 Meteorological Conditions

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

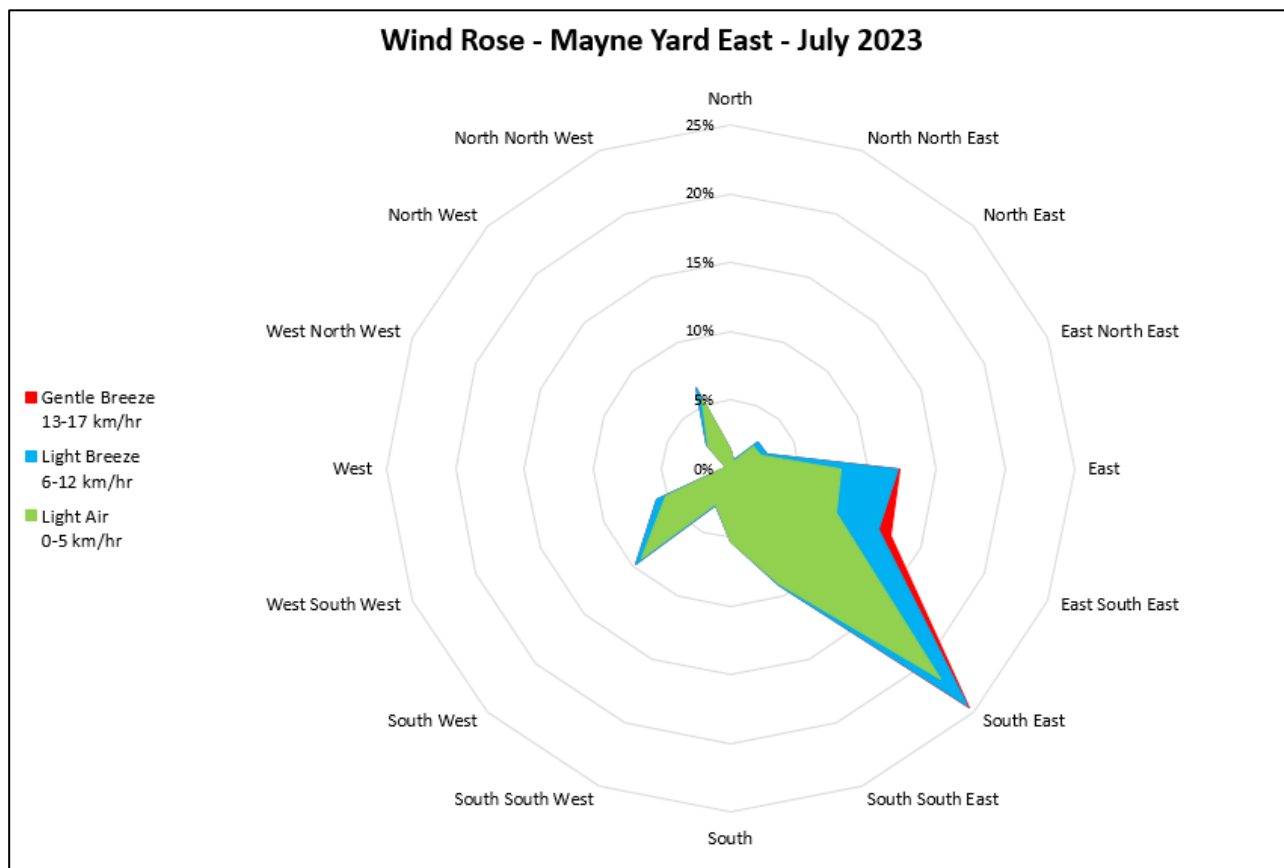


Figure 4 Mayne Yard East Wind Rose July 2023

### 3.1.11.2.3 Air Quality Complaints

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

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

### 3.1.11.3 Clapham Yard Insufficient Data 15 – 31 July 2023

During the reporting period between 15 – 31 July 2023 the Clapham Yard DMP did not record a sufficient volume of data (minimum 18-hours, or 75% over a 24-hour period). This was due to repeated battery failure.

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 dual gauge installation.

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

### 3.1.11.3.2 Meteorological Conditions

As shown in the wind rose below (refer Figure 5) the predominant winds during the insufficient data period were from westerly and south-south easterly directions. 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) and north-west across the Yard.

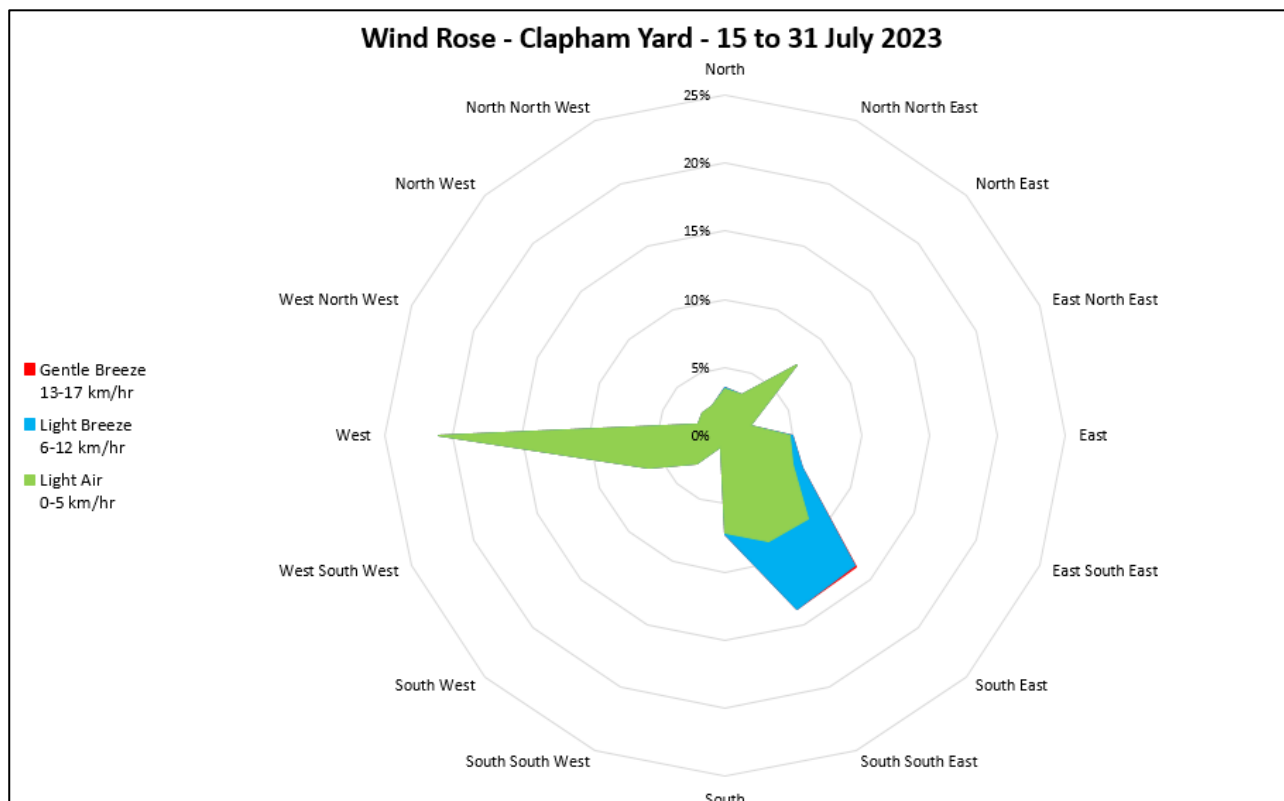


Figure 5 Clapham Yard 15 to 31 July 2023 Wind Rose

### 3.1.11.3.3 Air Quality Complaints

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

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

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

## Water Quality

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

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

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



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

Water quality monitoring to demonstrate compliance with Condition 15(b) and Condition 18 was triggered during the reporting period. Post rainfall response monitoring was undertaken.

### 3.1.12 Rainfall Records

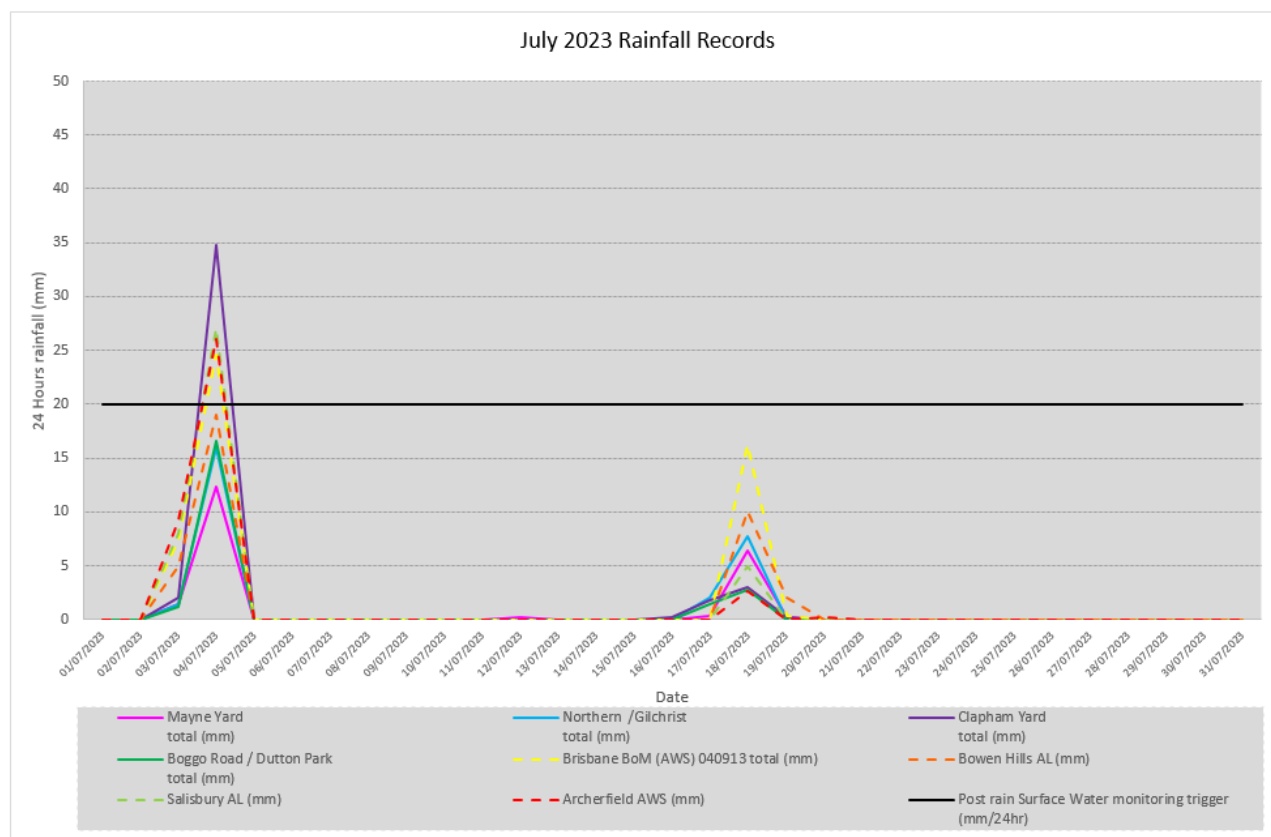


Figure 6 July 2023 Rainfall Records

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

Table 10 Post rainfall monitoring results

Date	Location	Waterway	Tide	Discharge Criteria <sup>2</sup>				TSS Delta
				Turbidity (NTU) Nil until Turbidity / TSS correlation achieved <sup>3</sup>	TSS (mg/L) <50	DO (%) Nil	pH (pH Unit) Stable pH reading; and General sites: 6.5 – 8.5, or Wallum/Acidic Ecosystems: 5.0 – 7.0	change of 5mg/L or 10% increase (whichever is the greatest)
5 July 2023	SW-05 (Upstream)	Moolabin Creek	N/A	7.6 NTU	<5	75	7.2	Yes – 57% increase in NTU
5 July 2023	SW-06 (Downstream)	Moolabin Creek	N/A	13.2 NTU	6	77	6.8	
5 July 2023	SW-7A (Upstream)	Rocky Water Holes Creek	N/A	13.7 NTU	5	92	7.5	Yes – 72% increase in NTU and 5mg/L change in TSS
5 July 2023	SW-07 (Midstream)	Rocky Water Holes Creek	N/A	16.6 NTU	7	70	7.2	
5 July 2023	SW-08 (Downstream)	Rocky Water Holes Creek	N/A	19.0 NTU	10	71	6.9	

### 3.1.13.1 Post Rainfall Monitoring Results Interpretation

Post rainfall monitoring events during the reporting period identified that water quality was visually more turbid than baseline conditions throughout the system at some of the monitoring locations.

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

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

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

#### 3.1.13.1.1 5 July 2023 Rainfall Event

The assessment found that the storm event size was a 6EY event which is below the design criteria for the controls required for the Rocklea and Clapham Yard work areas (UNITY work sites reporting to the monitored water bodies).

The Site-Specific Erosion and Sediment Control Plans were developed by a suitably qualified person (SQP) consistent with the Guidelines for Best Practice Erosion and Sediment Control (IECA 2008) as per CG condition 18.

Pre-rainfall site inspections of both sites confirmed that all controls required under the SSESCPs were in place and functional prior to the rainfall event.

Post-rainfall site inspections confirmed that all required controls withstood the rainfall event.

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

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

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

### 3.1.14 Routine Surface Water Monitoring Results

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

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

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

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

### 3.1.15 Groundwater Discharge Monitoring Results

Groundwater discharge monitoring was not triggered during the reporting period.

### 3.1.16 Surface Water Discharge Monitoring

Surface water discharge monitoring was triggered during the reporting period.

Table 111 Surface Water Discharge Results

Date	Location	Waterway	Discharge Criteria <sup>4</sup>			
			Turbidity (NTU) Nil until Turbidity / TSS correlation achieved <sup>5</sup>	TSS (mg/L) <50	DO (%) Nil	pH (pH Unit) Stable pH reading; and General sites: 6.5 – 8.5, or Wallum/Acidic Ecosystems: 5.0 – 7.0
24/07/2023	RNA	Breakfast Creek	49.5 NTU	N/A – Same water previously analysed	85%	pH 6.5

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

<sup>5</sup> Correlations are typically run on the source water (i.e., basins) not the receiving system where there is a dilution component of potentially diffuse sources of sediments from non-Project related areas. Due to the very limited amount of discharges the RIS Scope of Works has experienced, there is no correlation available. Typically, a minimum of 20 data points is used to determine TSS / in field turbidity correlation for site waters.

## 4 Compliance Review

### Non-Compliance Events

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

#### 4.1.1 Non-Compliance Events Summary

Table 122 Summary of Non-Compliance Events

Event Title	Location, Date, and time of event	Date the Event was Formally Notified to CG/IEM	Conditions Affected	Date the Event Report Formally Sent to CG/IEM	Status of Event
CRRDA-011-RIS-005	Fairfield 20, 23 and 28 November 2022	17 July 2023	Condition 4(d) Condition 10(d)	17 July 2023	Closed

### C-EMP Compliance

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

Table 133 C-EMP and relevant Subplans monitoring requirements – Compliance Status for the reporting period

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Air Quality	Visual monitoring program + Additional particulate monitoring as required based on the outcomes of the predictive assessment/risk profile	Moderate to High	Yes – visual monitoring is undertaken as part of routine inspections. Monitoring for TSP, PM <sub>10</sub> , and deposited dust was also undertaken TSP, PM <sub>10</sub> monitoring was carried out for two 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 – model verification triggered for one event	N/A	Not Applicable
Noise	Plant noise audits for noisy plant to validate models input as required	Moderate to High	No	N/A	Not Applicable
Noise	Complaint's response	Moderate to High	Not triggered	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	Not triggered	Compliant	Not Applicable
Vibration	Complaint's response	Moderate to High	Not triggered No complaints	N/A	Not Applicable

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

## Attachment 1    Imposed Conditions Non-Compliance Event Report

Refer Non-Compliance Report No. 9 at the following link:

<https://crossriversrail.qld.gov.au/planning-environment/environment-approvals/environmental-compliance/>



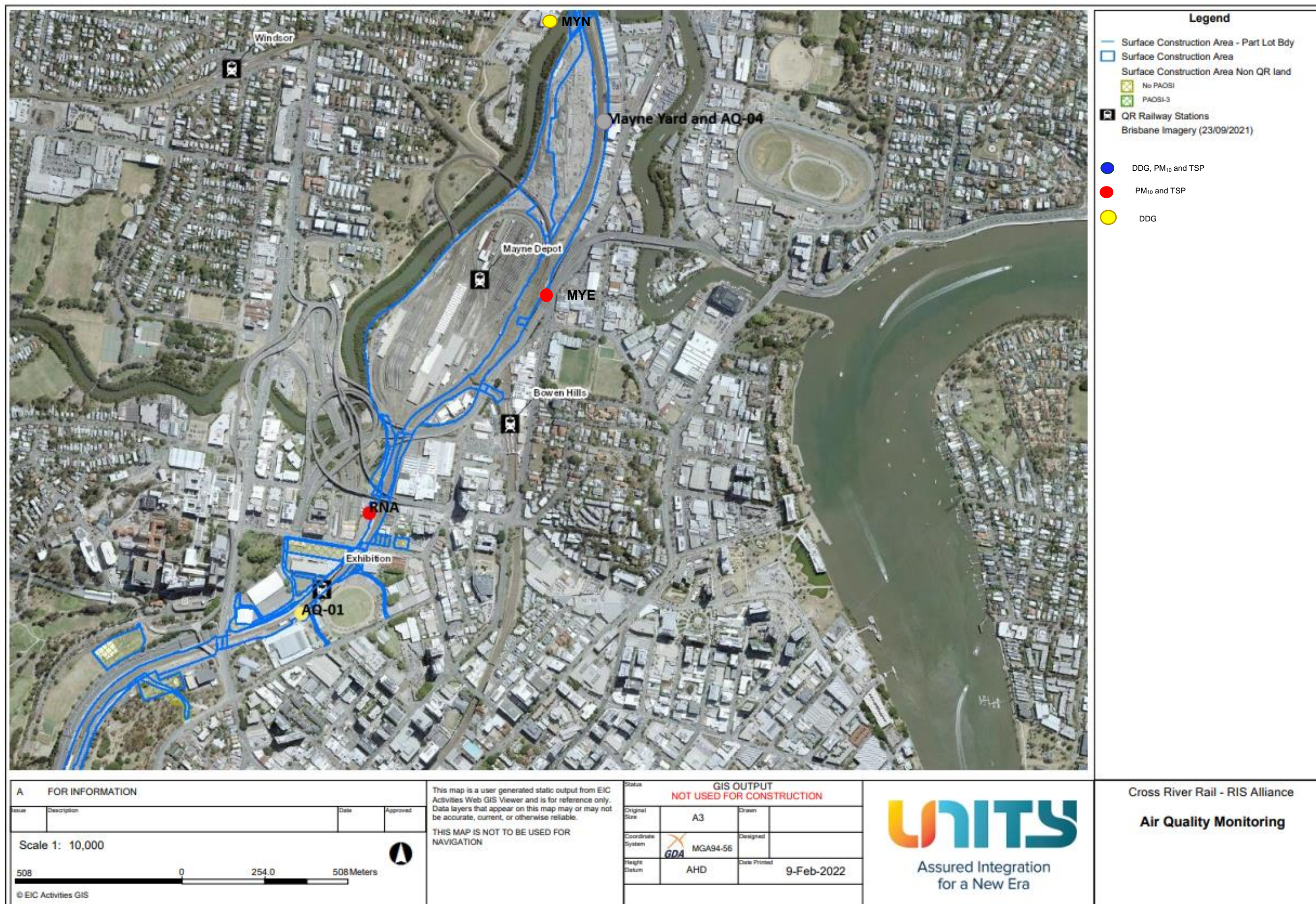
## Attachment 2    Monitoring Locations – Noise and Vibration



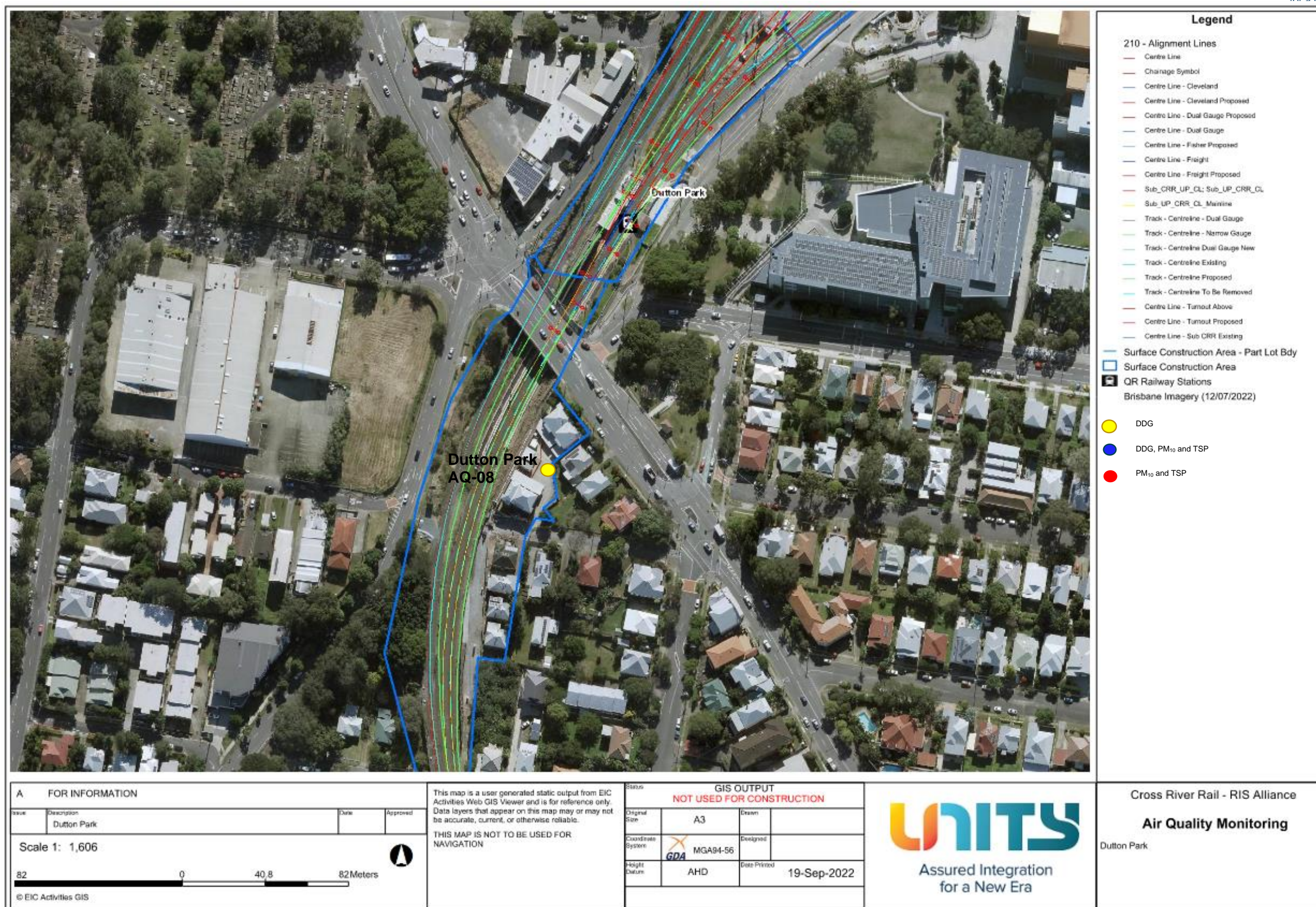
Figure 7 Dutton Park Soil Nail Rig Noise Monitoring July 2023

## Attachment 3   Monitoring Locations – Air Quality

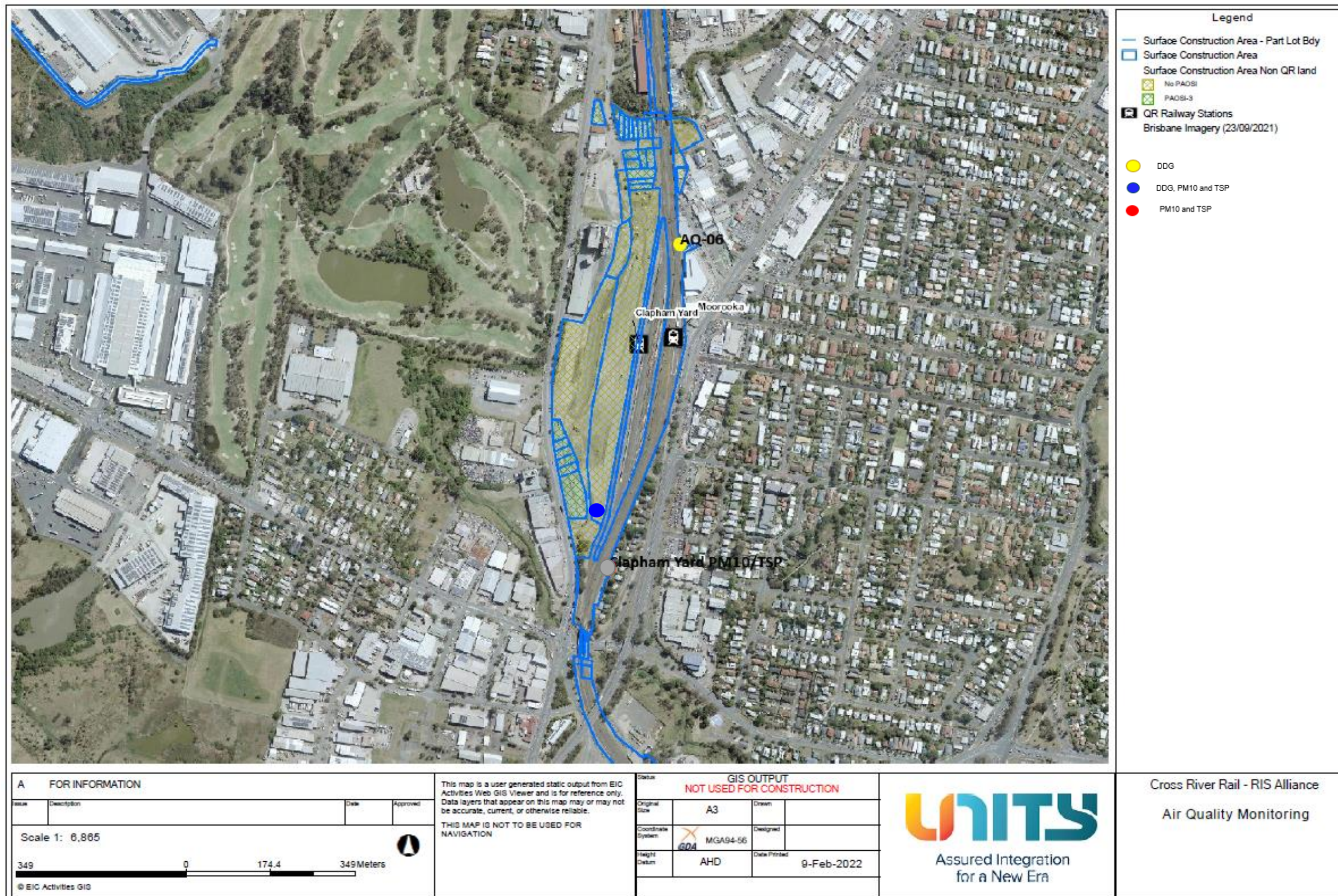








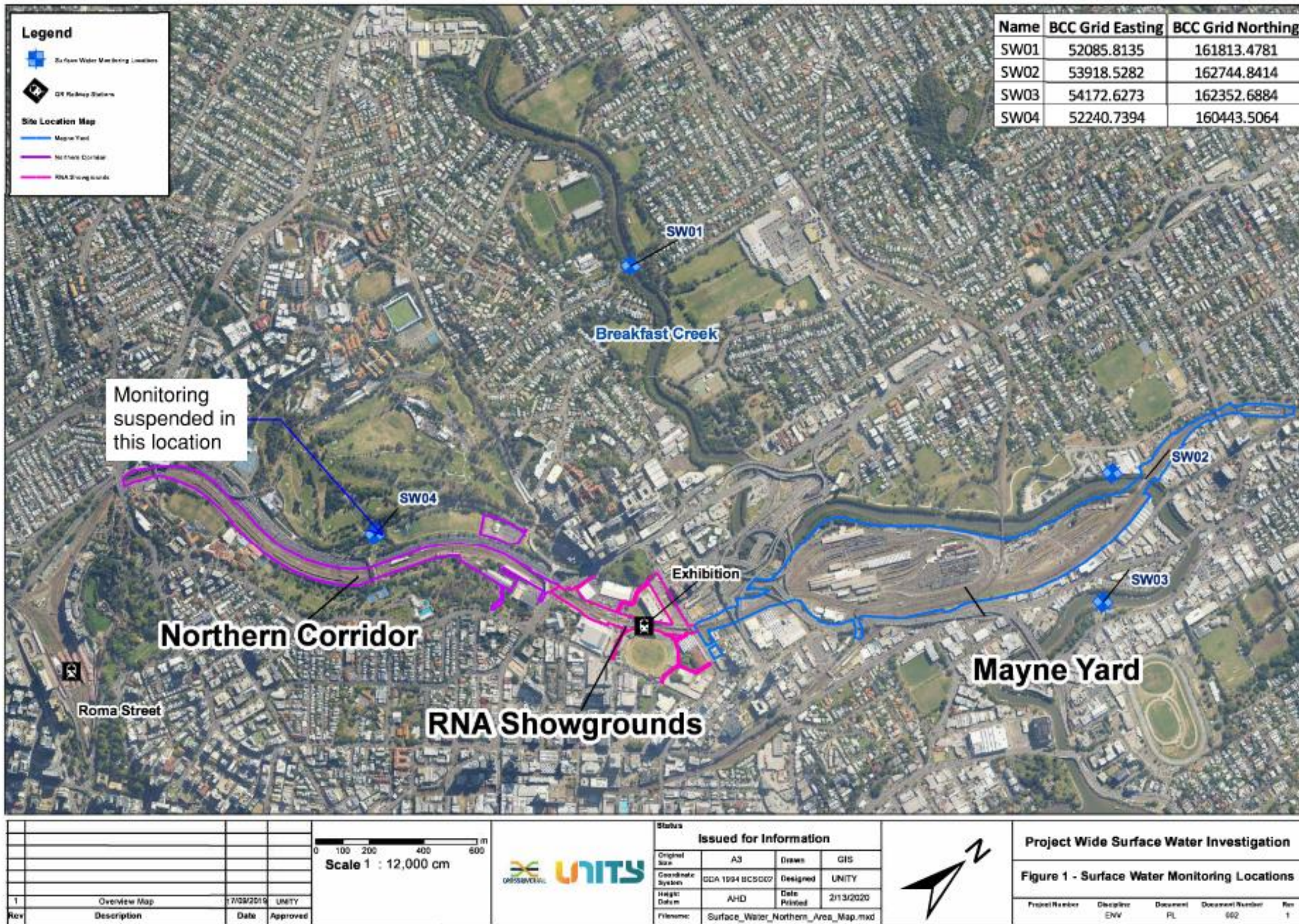




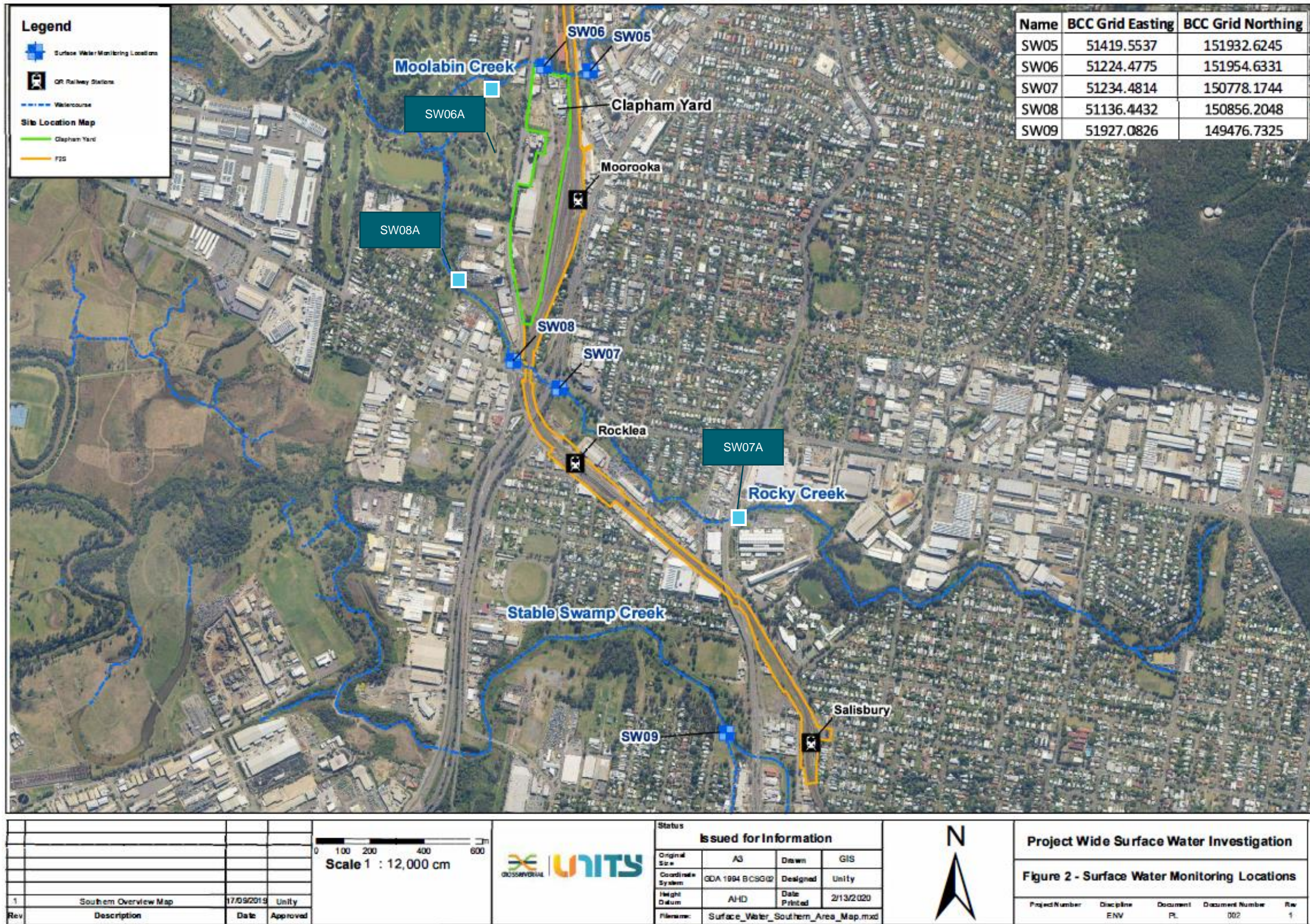


## Attachment 4    Monitoring Locations – Surface Water











# Appendix B TSD Monthly Report

## COORDINATOR-GENERAL'S MONTHLY REPORT: July 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 four (4) occasion during July 2023. Noise monitoring was conducted on eight (8) occasions during July 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 July 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 four (4) occasions during July 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.	04/07/2023	08:02:00 AM	5/07/2023	Roma Street (Roma Street Precinct)	0.12	0.39	2	Heritage	Yes
2.	06/07/2023	08:22:00 AM	7/07/2023	Roma Street (Roma Street Precinct)	0.13	0.30	50	Residential	Yes
3.	21/07/2023	09:52:00 AM	25/07/2023	Stanley Street (Woolloongabba Precinct)	0.19	1.11	25	Residential	Yes
4.	21/07/2023	02:31:00 PM	26/07/2023	Albert Street (Albert Street Precinct)	0.11	0.16	2	Heritage	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 eight (8) occasions during July 2023. All noise monitoring data adhered to Project requirements and is provided in the table below.

Table 3: Noise Monitoring Data

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External <sup>[3]</sup> Monitoring	Activity	Dominant Noise Source	Noise Goal LA10 <sup>[1]</sup>	Noise level LA10	Noise Goal LAeq <sup>[2]</sup>	Noise level LAeq	Adhered to Project Requirements (Yes / No)
1.	10/07/2023	11:26:00 AM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete works	Construction	55	44.3	45	41.4	Yes
2.	10/07/2023	11:46:00 AM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Concrete works	Construction	55	41.2	45	37.5	Yes
3.	12/07/2023	02:02:00 PM	Boggo Road Precinct	Construction Monitoring at Sensitive Places	External	Concrete works	Construction	67	66.8	57	65.1	Yes
4.	14/07/2023	09:19:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Concrete works	Construction	67	67.8	57	68.4	Yes
5.	18/07/2023	08:49:00 AM	Albert Street (Albert Street Precinct)	Model Verification	Internal	Decommissioning of oversized equipment	Construction	55	56.5	45	52	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.	20/07/2023	10:05:00 AM	Albert Street (Albert Street Precinct)	Model Verification	External	Concrete works	Construction	72	66	62	64.5	Yes
7.	21/07/2023	10:11:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Utilities works	Traffic	67	72.2	57	70.1	Yes
8.	24/07/2023	08:59:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Earth works	Traffic	67	70.2	57	67.9	Yes

- [1] Intermittent noise goal (LA10)

- [2] Continuous noise goal (LAeq)

- [3] Condition 11(c) implemented

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

### 3.3 Air Quality

#### 3.3.1 Deposited Dust Results

Air quality requirements (levels) are defined as goals within Imposed Condition 13. The goals are to be aimed for. The Coordinator-General Change Report acknowledges instances that exist that these goals may not be achieved. Dust deposition monitoring was performed in July 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 – July 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	32.26	Air quality monitoring was performed during the reporting period. All results adhered to project requirements.
Roma Street Precinct				6.45	
Albert Street Precinct (North)				56.25	
Albert Street Precinct (South)				9.37	
Woolloongabba Precinct (North)				42.86	
Woolloongabba Precinct (South)				39.29	
Boggo Road Precinct (North)				6.90	
Boggo Road Precinct (South)				13.79	
Southern Portal (South)				27.59	
Southern Portal (East)				34.48	

### 3.3.2 Particulates and Ambient Air Quality Results

Total Suspended Particles (TSP) and particulate matter less than 10µm (PM10) monitoring were conducted during July 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 July 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-July-23	80	50	9.11	8.53	11.99	8.90	3.88	3.86	5.94	5.91
02-July-23	80	50	10.31	10.20	8.19	7.09	8.50	8.47	14.09	14.08
03-July-23	80	50	- [2]	- [2]	15.14	12.99	11.75	11.72	14.83	14.82
04-July-23	80	50	- [2]	- [2]	15.14	12.99	11.75	11.72	14.83	14.82
05-July-23	80	50	- [2]	- [2]	9.83	8.99	11.82	11.81	16.19	16.18
06-July-23	80	50	- [2]	- [2]	15.20	11.59	9.60	9.59	14.21	14.19
07-July-23	80	50	5.00	4.70	17.94	12.40	5.70	5.65	7.68	7.66
08-July-23	80	50	5.96	5.56	16.11	10.46	1.43	1.40	1.96	1.92
09-July-23	80	50	9.86	9.73	9.62	6.65	3.05	3.02	2.63	2.60
10-July-23	80	50	14.99	14.76	6.08	5.01	5.73	5.72	4.04	4.02
11-July-23	80	50	21.22	21.03	14.90	11.17	10.29	10.28	10.47	10.45
12-July-23	80	50	20.21	20.06	20.99	16.00	18.17	18.16	18.01	17.99
13-July-23	80	50	13.07	12.95	24.18	18.68	15.69	15.69	23.74	23.72
14-July-23	80	50	20.15	20.03	18.61	14.35	9.53	9.52	10.34	10.33
15-July-23	80	50	30.63	30.50	18.20	14.47	16.61	16.59	19.28	19.25
16-July-23	80	50	24.36	24.25	16.56	13.85	28.45	28.43	29.24	29.23
17-July-23	80	50	15.44	15.34	10.08	9.02	24.41	24.40	30.17	30.15
18-July-23	80	50	12.09	12.02	15.56	12.65	13.52	13.50	14.47	14.46

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-July-23	80	50	13.93	13.82	14.64	11.56	10.64	10.63	10.40	10.38
20-July-23	80	50	14.45	14.28	21.43	16.11	10.29	10.28	12.96	12.94
21-July-23	80	50	27.37	27.14	20.79	15.84	10.87	10.87	14.85	14.83
22-July-23	80	50	23.00	22.66	30.59	23.53	23.26	23.24	29.77	29.72
23-July-23	80	50	18.02	17.93	13.66	11.51	18.90	18.89	19.97	19.95
24-July-23	80	50	8.31	8.19	8.80	8.06	15.97	15.97	17.97	17.94
25-July-23	80	50	8.42	8.30	15.31	12.25	5.07	5.06	9.97	9.95
26-July-23	80	50	9.23	9.14	14.68	11.49	5.16	5.15	9.27	9.24
27-July-23	80	50	11.43	11.22	7.56	6.69	3.56	3.55	12.13	12.12
28-July-23	80	50	10.04	9.92	6.39	5.66	- [3]	- [3]	11.82	11.79
29-July-23	80	50	15.12	15.02	6.55	5.86	- [3]	- [3]	9.13	9.10
30-July-23	80	50	15.04	14.94	10.46	9.67	- [3]	- [3]	31.36	31.34
31-July-23	80	50	18.61	18.45	7.69	6.91	- [3]	- [3]	18.77	18.75

- [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 Woolloongabba air quality unit was temporarily stopped while CBGU was performing routine maintenance at the air quality unit's location. A nearby (South Brisbane) DES Air Quality Station demonstrated compliant air quality during this outage period. These results are provided below. Low levels were also consistently monitored throughout the month when the unit was operating.
- [3] The Boggo Road air quality unit experienced technical difficulties intermittently during 28<sup>th</sup> to the 31<sup>st</sup> of July. As soon as practicable, the unit was inspected, and the manufacture has been contacted to assist with resolving the issue. 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.

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: **28.1 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=cbd&parameter=18&date=1/07/2023&timeframe=month>)
- South Brisbane: PM10 daily Maximum average: **30.3 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=sbr&parameter=18&date=1/07/2023&timeframe=month>)
- Woolloongabba: PM10 daily Maximum average: **42.7 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=woo&parameter=18&date=1/7/2023&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, 1–31 July 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).

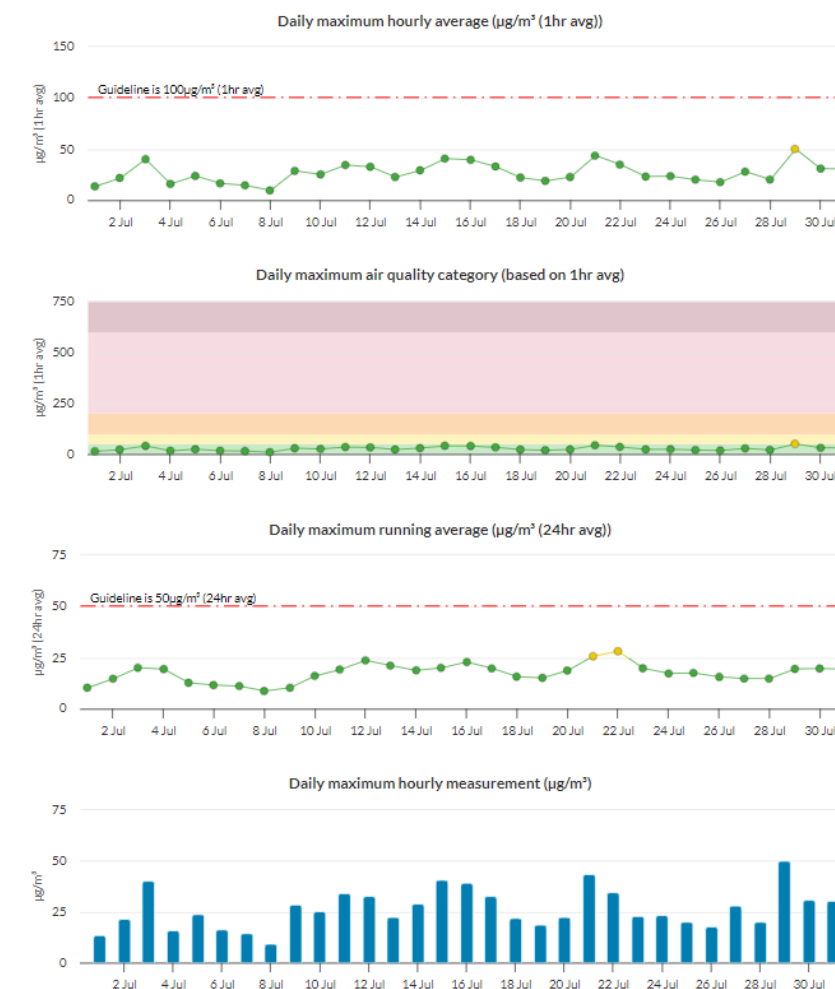


Figure 1: Brisbane CBD – DES Station - PM10 graph for July 2023 (reproduction from the DES website).

# Particle PM<sub>10</sub> at South Brisbane, 1–31 July 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).

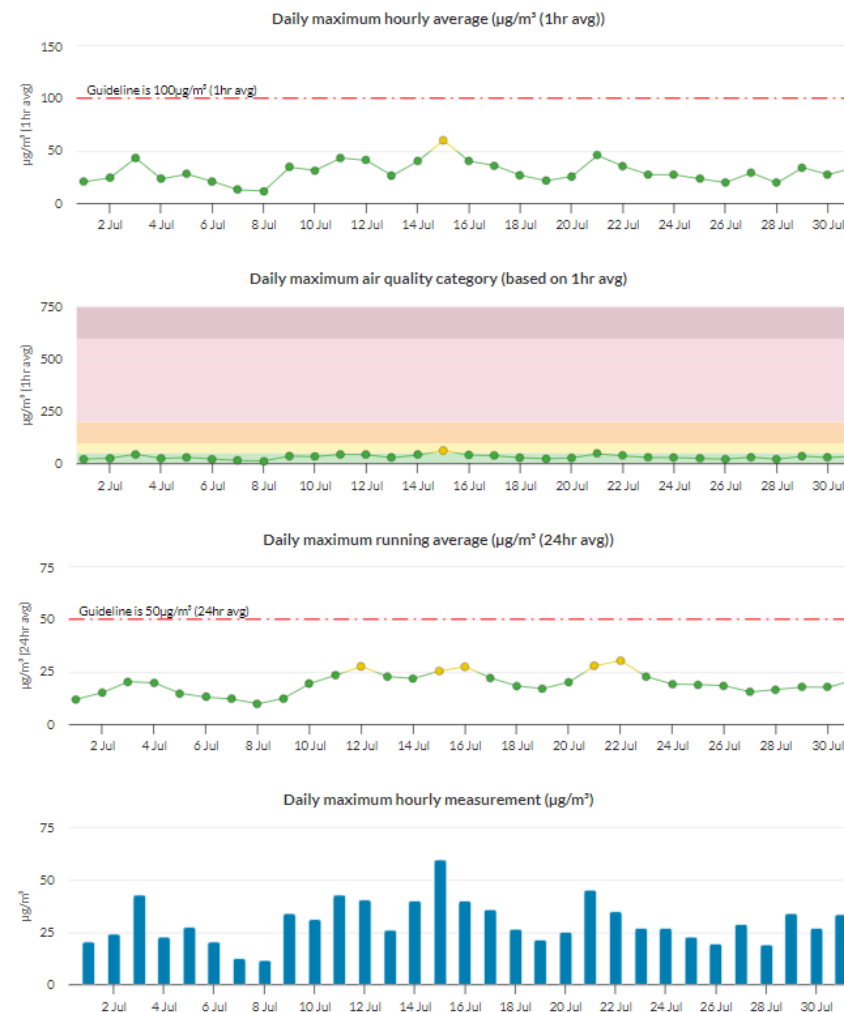


Figure 2: South Brisbane – DES Station - PM10 graph for July 2023 (reproduction from the DES website).

### Particle PM<sub>10</sub> at Woolloongabba, 1–31 July 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).

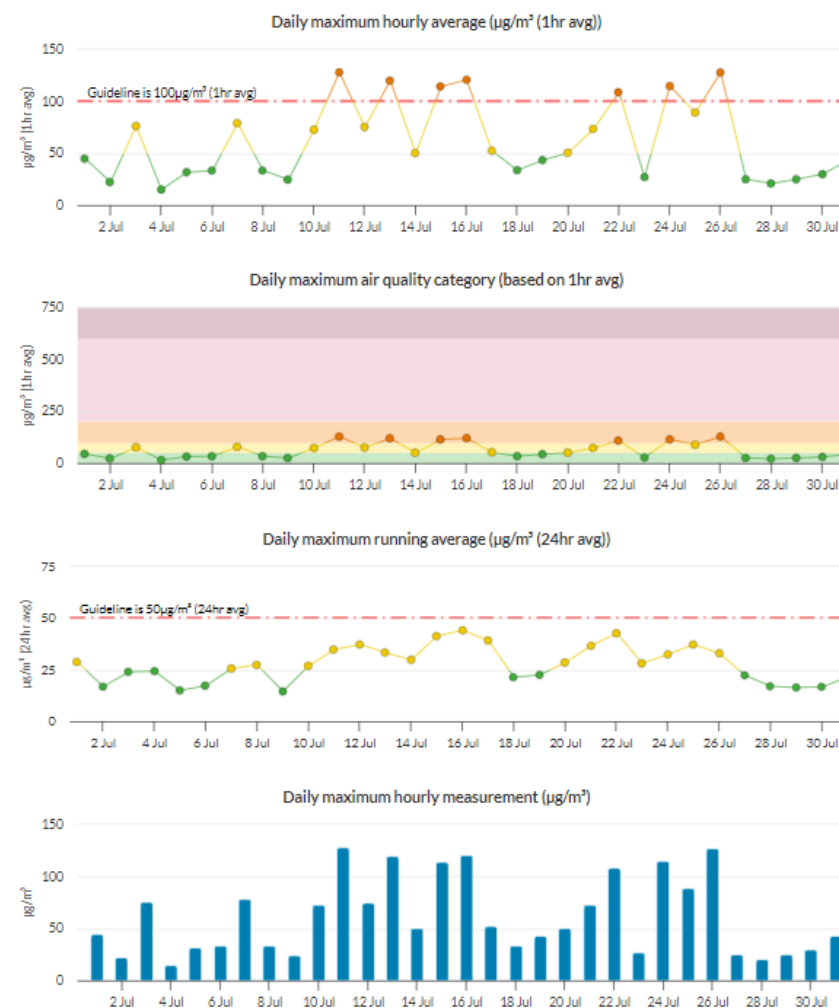


Figure 3: Woolloongabba – DES Station - PM10 graph for July 2023 (reproduction from the DES website).

### 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>	
Boggo Road	04/07/2023	7.64	7.00	6.81	140	860	400	1400	410	<10	<1	97.39	Yes
Albert Street	11/07/2023	7.70	<5	1.30	260	220	400	900	40	<10	<1	101.67	Yes
Woolloongabba	13/07/2023	7.62	<5	0.98	<10	460	500	1000	<10	<10	<1	94.94	Yes
Roma Street	13/07/2023	7.98	<5	0.06	100	670	400	1200	20	20	<1	96.49	Yes

- [1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. Water quality objectives are defined as goals within the Brisbane River estuary environmental values and water quality objectives document.
- [2] All results adhere to Project requirements in that site practices are designed to aim to achieve the water quality objectives. The dissolved oxygen samples were acquired before discharge from the site. Pumping of the water will have inadvertently aerated the water, thus influencing the dissolved oxygen level.
- [3] All results adhere to Project requirements in that site practices aim to achieve the water quality objectives. These samples identified results generally consistent with pre-construction conditions, and no external influences were introduced by construction activity.
- [4] Total nitrogen levels adhered to project requirements in that site practices are designed to aim to achieve the water quality objectives. The results are mostly below that of the receiving environment. They are also considered abnormal compared to results from previous months, and are influenced by external factors (e.g., high rainfall events, overloaded sewage systems, fertilising natural areas, etc.) rather than related to construction activities.
- 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	30/06/2023	8.03	1.23	Yes
2.	Northern Portal	3/07/2023	8.03	3.24	Yes
3.	Northern Portal	4/07/2023	8.20	10.25	Yes
4.	Northern Portal	5/07/2023	8.24	37.50	Yes
5.	Southern Portal	6/07/2023	7.00	14.60	Yes
6.	Northern Portal	6/07/2023	8.11	28.30	Yes
7.	Northern Portal	7/07/2023	8.07	2.39	Yes
8.	Southern Portal	10/07/2023	7.66	35.70	Yes
9.	Northern Portal	10/07/2023	8.20	2.35	Yes
10.	Southern Portal	11/07/2023	7.61	45.60	Yes
11.	Northern Portal	11/07/2023	8.30	0.10	Yes
12.	Northern Portal	12/07/2023	8.37	6.01	Yes
13.	Northern Portal	13/07/2023	8.30	5.42	Yes
14.	Northern Portal	14/07/2023	8.39	0.20	Yes
15.	Northern Portal	17/07/2023	8.32	4.28	Yes

16.	Northern Portal	18/07/2023	8.22	30.10	Yes
17.	Northern Portal	19/07/2023	8.35	15.37	Yes
18.	Northern Portal	20/07/2023	8.30	0.94	Yes
19.	Northern Portal	21/07/2023	8.23	2.85	Yes
20.	Northern Portal	24/07/2023	6.66	34.70	Yes
21.	Northern Portal	25/07/2023	8.31	2.50	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 July 2023, CBGU JV undertook one (1) round of surface water sampling at five (5) site locations (upstream and downstream). A rain event that occurred on the 4<sup>th</sup> of July triggered post-rainfall sampling at Woolloongabba and Albert Street precincts.

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

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

Location	Upstream / Downstream	Date	Purpose of Monitoring	Turbidity (NTU)	EC (µS/cm)	Dissolved oxygen (%)	pH
Albert Street	Upstream	5/07/2023	Monthly	26.70	41100	99.25	8.05
Albert Street	Downstream	5/07/2023	Monthly	32.80	42000	98.04	8.05
Boggo Road <sup>[1]</sup>	Downstream	5/07/2023	Monthly	22.30	1900	88.90	7.35
Woolloongabba	Upstream	5/07/2023	Monthly	30.90	40600	89.19	7.67
Woolloongabba	Downstream	5/07/2023	Monthly	22.40	30500	88.87	7.75
Northern Portal	Upstream	13/07/2023	Monthly	6.43	809	62.03	7.32
Northern Portal	Downstream	13/07/2023	Monthly	6.34	564	46.58	7.56
Roma Street	Upstream	13/07/2023	Monthly	17.24	33500	83.95	7.72
Roma Street	Downstream	13/07/2023	Monthly	11.90	33700	85.00	7.82

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



## 4 Non-Compliances

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

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

Table 9: Non-Compliance Events this Month

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

## 5 Complaints

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

During July 2023, three (3) 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.	05/07/2023	Mary 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.	07/07/2023	Mary 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.	07/07/2023	Mary 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