

The background of the entire page is a detailed, light blue map of the Cross River area. The map shows a complex network of streets, including major thoroughfares and smaller residential roads. A prominent river, the Cross River, winds through the center of the map. Various landmarks and geographical features are visible, such as parks and open spaces. The map is rendered in a monochromatic blue color scheme, providing a clear and informative backdrop for the report's title.

# Cross River Rail Project

## Monthly Environmental Report

December 2022

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# Executive Summary

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

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

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

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

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

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

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 predictive noise assessments for the relevant project works and in response to a noise complaint. Noise monitoring results confirmed project requirements were met. 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 occurred at RNA. The results met the requirements of the endorsed CEMP.  TSD – Vibration monitoring was not triggered during the reporting period.
12.	<b>Property damage</b> – relating to ground movement.	Yes	RIS – Vibration modelling has been undertaken for Relevant Project Works, and Property Damage Sub-plans have been developed and implemented. Pre-condition surveys have been completed at heritage, commercial and residential



Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
			<p>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 Decemberr.</p>
13.	<b>Air quality</b> – Works must aim to achieve air quality goals for human health and nuisance.	Yes	<p>Air quality monitoring met Project air quality project requirements.</p> <p>RIS – Contractor confirmed they continued to meet the requirements under Condition 14 and the OEMP. Refer to <b>Appendix A</b> (Tables 7, 8 and 9 and Section 3.2, plus Figures 1, 2 and 3).</p> <p>TSD – Refer to <b>Appendix B</b> (Tables 4.2 and 5 plus Section 3.3).</p>
14.	<b>Traffic and transport</b> – Works must minimise adverse impacts on road safety and traffic flow.	Yes	<p>Traffic Management Plans are covered in the CEMPs. Sub-plans for all active worksites have been reviewed by the EM.</p>
15.	<p><b>Water quality</b> – Works must not discharge groundwater from the construction site above the relevant environmental values and water quality objectives.</p> <p>Monitor and report on water quality in accordance with CEMP and Sub-plans.</p>	Yes	<p>Monitoring and reporting on groundwater and surface water quality was undertaken in accordance with RIS and TSD Water Quality Management Plans.</p> <p>RIS – No groundwater discharges occurred during December.</p> <p>Surface water discharge occurred at RNA and Normanby during the reporting period. Monitoring results showed the parameters meet the discharge criteria. See <b>Appendix A</b> (Section 3.3.5) for further details.</p> <p>Post-rainfall monitoring occurred at Moolabin Creek and Rocky Water Holes Creek. See <b>Appendix A</b> (Section 3.3.2 and Tables 10) for further details.</p> <p>TSD – Active discharge of groundwater occurred from Roma Street, Albert Street, Woolloongabba and Boggo Road worksites. Monitoring results of groundwater quality prior to discharge is consistent with the pre-construction water quality levels.</p> <p>Surface water discharges occurred at the Northern Portal worksite on 26 occasions.. The monitoring results demonstrated the</p>

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
			<p>surface water discharges met project water quality discharge criteria.</p> <p>Post-rainfall monitoring in receiving waters of the Northern Portal, Roma Street, Albert Street, Woolloongabba and Boggo Road sites occurred due to a rainfall event.</p> <p>Routine in stream monthly monitoring met project water quality requirements.</p> <p>Refer to <b>Appendix B</b> (Table 6) for ground water monitoring results.</p> <p>Refer to <b>Appendix B</b> (Tables 7 and 8) for surface water monitoring results.</p>
16.	<b>Water resources</b> – Evaluate potential impact, plan works, implement controls and monitor inflow of groundwater associated with drawdown.	Yes	<p>RIS – There is no sustained groundwater extraction involved in the RIS scope of works so predictive modelling of groundwater drawdown is not required. Collection of hydrological data to model potential inflow rates into excavations during construction has been undertaken.</p> <p>TSD – Inflow of groundwater into the worksites is being continuously monitored to validate the predictive modelling.</p>
17.	<b>Surface water</b> – Must be designed to avoid inundation from stormwater due to a 2-year (6hr) ARI rainfall event and flood waters due to a 5-year ARI rainfall event and constructed to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.	Yes	Contractors continue to consider this condition in their site planning and design.
18.	<b>Erosion and sediment control</b> – Provisions for erosion and sediment control must be consistent with the Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52.	Yes	Site specific ESC plans for all active work sites have been reviewed by the EM and implemented on site.
19.	<b>Acid sulfate soils</b> – managed as per the Queensland Acid Sulfate Soil Technical Manual.	Yes	Acid Sulfate Soil Management Plans have been prepared and implemented for all active worksites.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
20.	<b>Landscape and open space</b> – general requirement to minimise impacts on landscapes and open space values and specific requirements around Victoria Park.	Yes	The construction of a temporary access road through Victoria Park was undertaken under a Heritage Exemption Certificate approved by the Department of Environment and Science (DES) on 24 June 2021. Consideration has been taken to minimise loss of trees and the area of park impacted during these temporary works.
21.	<b>Worksite rehabilitation</b> – worksites rehabilitated as soon as practicable upon completion of works or commissioning, and in consultation with Brisbane City Council.	NA	N/A

## Non-Compliance Events

There were no NCEs raised in December 2022.

# Definitions

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



# 1.Introduction

## 1.1. Background

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

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

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

## 1.2. Project Delivery

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

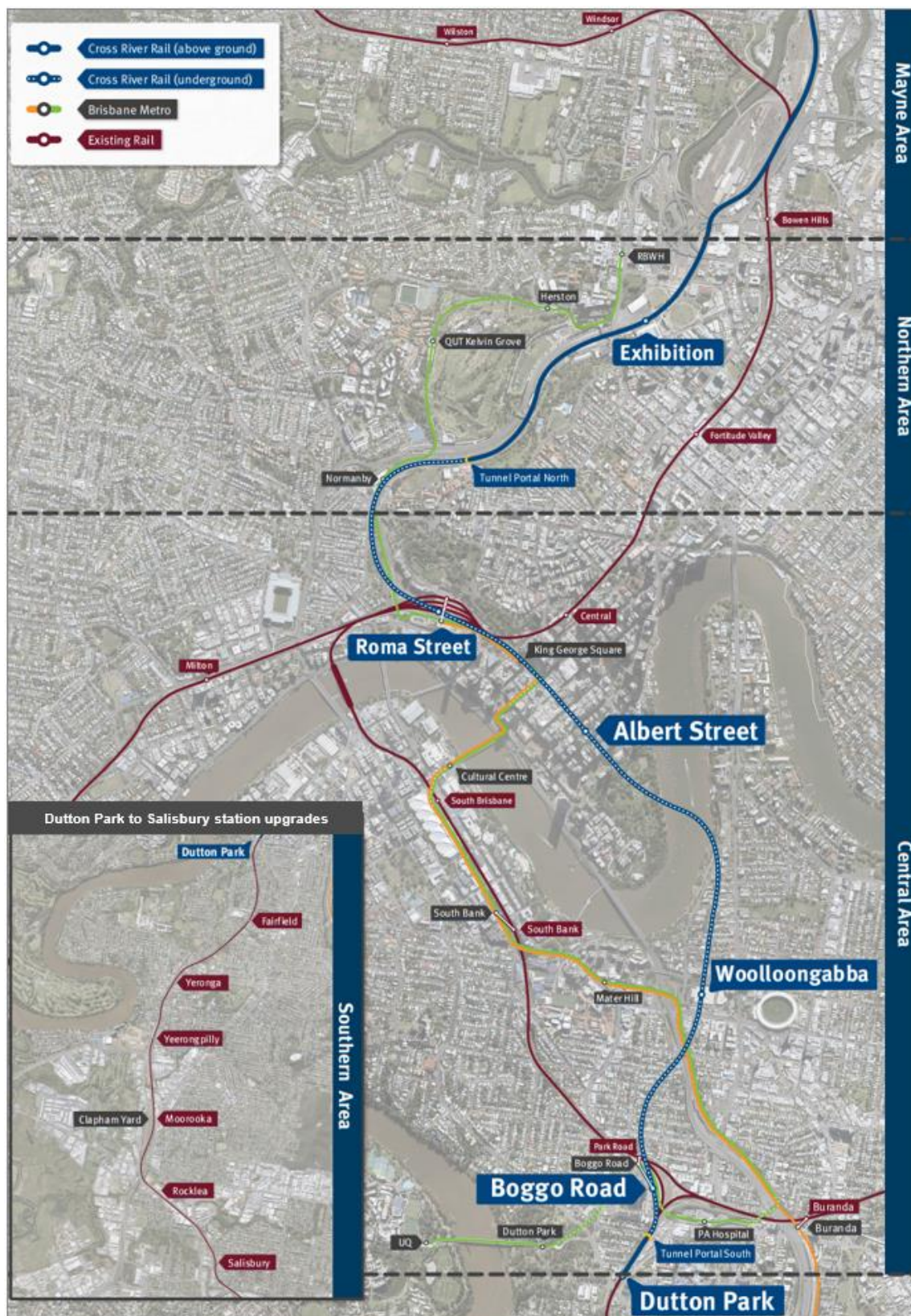
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

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

The Project is geographically divided into four areas:

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

These are shown in the figure over.



## 1.3. Reporting Framework

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

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

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

## 1.4. Monthly Environment Report Endorsement

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

# 2.Compliance Review

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

## 2.1. Relevant Project Works

The following Project Works were undertaken in December 2022:

Area	Project Works
Mayne Area	<p><b>Mayne Yard North –</b></p> <ul style="list-style-type: none"><li>• Mayne Yard North hand over and QR familiarisation ongoing.</li></ul> <p><b>Mayne Yard East / West –</b></p> <ul style="list-style-type: none"><li>• BR11/13 (vehicle access tripod bridge over future CRR lines) nearing completion, BR08;</li><li>• (Breakfast Creek Bridge) temporary support works ongoing with center span girder lifts;</li><li>• scheduled for early Mar '23, BR12 (pedestrian bridge from Bowen Hills Station to MY West) commenced;</li><li>• Civil scope for Shunt Road and vehicle access road continuing;</li><li>• Demolition of the DLP area has been completed; and</li><li>• Sewer underbore at Campbell Street has commenced.</li></ul>
Northern Area	<p><b>RNA/ Northern Corridor –</b></p> <ul style="list-style-type: none"><li>• Demolition of RNA facilities and QR facilities completed (eastern side of Exhibition Station);</li><li>• Drainage (Eastern Side) progressing well;</li><li>• Victoria Park Feeder Station civil scope completed, and switch room and transformer installed. Fit out and termination work ongoing;</li><li>• All civil scope completed for upcoming RIS-N-9C switch into Stage 2; and</li><li>• Ongoing Rail Systems scope (OHLE, Signal, Track) ongoing for lead up to upcoming RISN-9C switch into Stage 2.</li></ul> <p><b>Northern Portal –</b></p> <ul style="list-style-type: none"><li>• Fire wall is complete;</li><li>• TBM Extraction box roof topping slab pour;</li><li>• Cavi-drain install on MC02 complete; and</li></ul>

Area	Project Works
	<ul style="list-style-type: none"> <li>Shotcrete liner wall, drainage and de stressing of anchor works complete on dive structure.</li> </ul>
Central Area	<b>Roma Street –</b> <ul style="list-style-type: none"> <li>Station cavern – BoH slab and wall pours and installation of mezzanine beam segments ongoing;</li> <li>Station Building – Continued FRP works for perimeter and internal walls (B1-L0); continuing B1 &amp; L0 suspended slabs pours (BOH &amp; FOH). B2 to L0 BoH and FoH wall FRP works in progress, and slabs for B1 BoH and L0 FoH in progress;</li> <li>Services building – Continued steel fixing and stickwork for precast walls (L0-L1); continuing table form installation and steel fixing for final slab L1 pour (section 3) in northern station; Completed Energex room structural works and commenced services fit-out; and</li> <li>INB Underpinning – Continued services works on INB soffits; targeting commencement of FSL topping slab FRP works early Jan 23.</li> </ul>
	<b>Albert Street –</b> <ul style="list-style-type: none"> <li>Lot 1 – B9 Level Slipform (external perimeter walls) - Completed Slip 1,2, 3, 4.1 and 4.2 (RL-34.13 to -25.53) remainder of Slip 4 (ie walls SW7 and SW6) ongoing;</li> <li>Lot 2 – 18 of 21 cavern arch pours complete, Mezzanine team mobilised to northern cavern; and</li> <li>Lot 3 – Continuing internal and perimeter wall FRP works; steel fixing for life core 2 continues; continuing FRP for internal walls.</li> </ul>
	<b>Woolloongabba –</b> <ul style="list-style-type: none"> <li>SW5 and SW3 External wall pours continue to progress;</li> <li>Blockwork complete in service building and main station levels. Blockwork to South Cavern BOH;</li> <li>ongoing and about to commence in the North BOH;</li> <li>ME/Building Services commenced on B9, B8, B7, B6, B4 &amp; B3, including both stairwells;</li> <li>ME/Building Services commenced in South Cavern BOH and platform culverts;</li> <li>Goods Lift install 70% complete and ahead of schedule with Kone; and</li> <li>Platform culvert topping slab poured in South Cavern, culvert installation continues in the North Cavern.</li> </ul>
	<b>Tunnel fitout –</b> <ul style="list-style-type: none"> <li>Drill rig has now commenced work in MC02 R2NP commencing from XP14 heading south;</li> <li>MAP walkway commenced in MC02 R2NP commencing at the headwall heading south;</li> <li>B2G final clean up and adjustment works ongoing in MC01 and MC02; and</li> <li>Bracket installation has continued in MC02 G2A.</li> </ul>
	<b>Boggo Road –</b> <ul style="list-style-type: none"> <li>Concrete to in-situ structure at 62% complete;</li> <li>Reinforcement to in-situ structure 70% complete;</li> <li>FRP of southern BoH continuing, with suspended slabs commenced; and</li> <li>Precast Vierendeel installation ongoing 24/230 installed.</li> </ul>
	<b>Southern Portal –</b> <ul style="list-style-type: none"> <li>Base slab and drainage works ongoing within cut and cover structure and in open trough section;</li> <li>Firewall FRP works ongoing;</li> <li>Liner wall steel fixing works ongoing;</li> <li>Services relocation, finalising remaining property connections in railway Terrace;</li> </ul>



Area	Project Works
	<ul style="list-style-type: none"> <li>FRP works ongoing for Eastern and Western Abutment.</li> <li>Continued fabrication of PAH Bridge main bridge girders and pylon. Fabrication of shipment 1 at 93% complete; and</li> <li>Completion of Park Rd TSC foundation.</li> </ul>
<b>Southern Area</b>	<p><b>Dutton Park –</b></p> <ul style="list-style-type: none"> <li>CSR Scope including UTXs;</li> <li>CSR Scope including UTX's during possession windows;</li> <li>Cope St Noise barrier work continuation;</li> <li>Continuation of piling works for Cope Street retaining walls and noise walls;</li> <li>OHLE Foundations &amp; Structures continue;</li> <li>Turnout installed in previous SCAS by Track Team;</li> <li>Signalling team continue modify existing signalling infrastructure.</li> </ul> <p><b>Fairfield Station –</b></p> <ul style="list-style-type: none"> <li>All works leading up to and in readiness for the station re-opening planned on 9 January 22;</li> <li>Platform 3 slab pours completed – all slab pours now complete; and</li> <li>OHLE Foundations &amp; Structures continue.</li> </ul> <p><b>Yeronga Station –</b></p> <ul style="list-style-type: none"> <li>Open new pedestrian overpass;</li> <li>Large volume of scope progressed on and off platform heading toward final completion;</li> <li>Energisation, testing &amp; commissioning of permanent power and downstream sub-boards, lighting, lifts, and mechanical items; and</li> <li>OHLE Foundations &amp; Structures continue.</li> </ul> <p><b>Clapham Yard –</b></p> <ul style="list-style-type: none"> <li>BR93 (Moolabin Creek Track Bridge) FRP deck pours completed;</li> <li>BR94 (Chale Street Bridge) FRP scope and RSS wall RW640 completed for Southern side incl. girder installation Southern Span 2;</li> <li>Drainage (outside the future yard) completed; and</li> <li>OHLE Foundations &amp; Structures continue.</li> </ul> <p><b>Rocklea Station –</b></p> <ul style="list-style-type: none"> <li>Completed all station piles;</li> <li>Continued inground services throughout platform areas;</li> <li>Commenced FRP work for structural foundations;</li> <li>Installation of buildings and facilities for the Rocklea office compound setup; and</li> <li>OHLE Foundations &amp; Structures continue.</li> </ul>

## 2.2. Key Environmental Elements

### 2.2.1. Noise

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



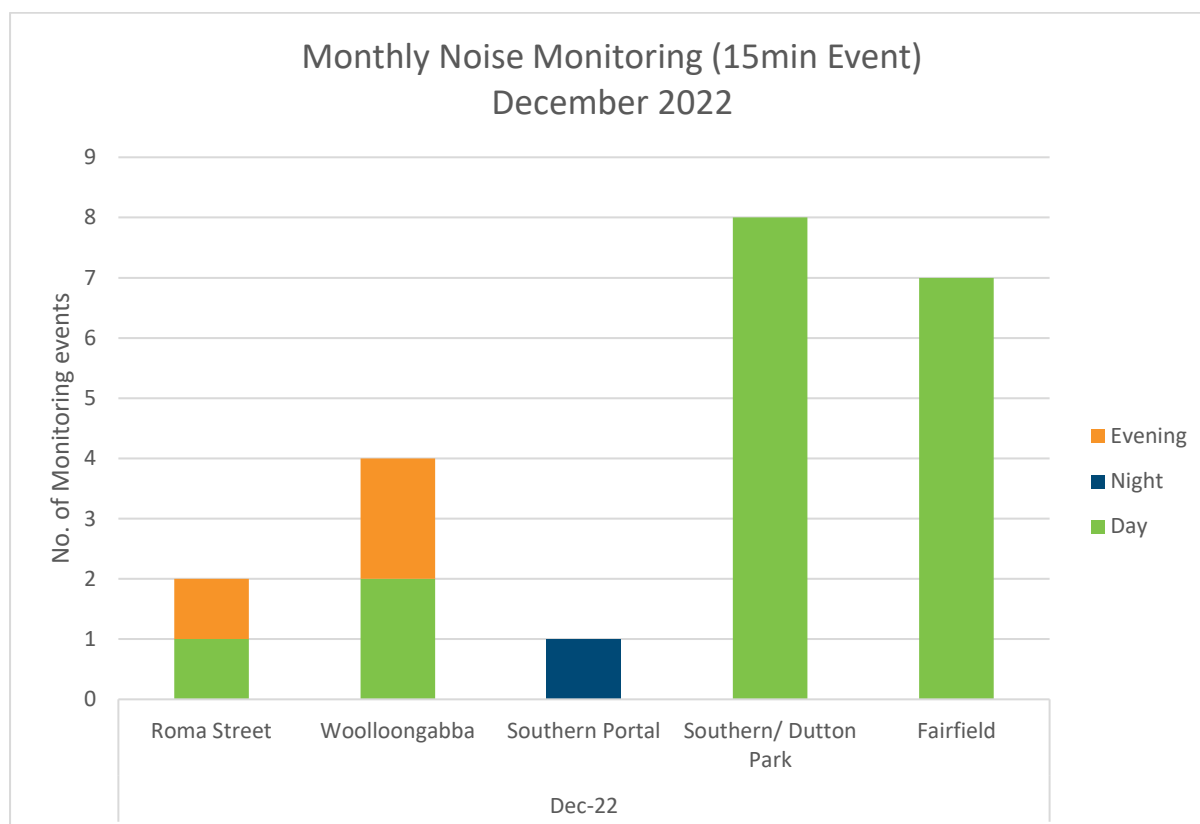
For Project Works where potential noise impacts are modelled to be above the noise goal but below the noise goal plus 20dBA, this work is authorised where the endorsed CEMP and associated Noise and Vibration Management Plan is being implemented, including communicating construction activities to potential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

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

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

In the Southern Area, noise monitoring was undertaken by the RIS contractors to validate predictive modelling for Southern/Dutton Park and Fairfield SCAS works. The monitoring was consistent with the predicted noise levels. One monitoring sessions was undertaken in response to a noise complaint at a residence near the Fairfield works. The results confirmed the noise goals + 20dBA were not exceeded with the exception of two monitoring events at Fairfield Station. Appropriate case by case consultation was completed though through the Out of Hours Permit process, thus demonstrating compliance with the project requirements. The RIS contractors reported that the project noise requirements have been met during this reporting month. Monitoring results for the Southern Area are detailed in **Appendix A** (Table 4).

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



## 2.2.2. Vibration

In the Northern Area, vibration monitoring continued at RNA during the use of a 7.5T hydraulic hammer in close proximity to the Royal International Convention Centre. The results were well below the vibration goal and are detailed in **Appendix A** (Table 5).

## 2.2.3. Air Quality

### 2.2.3.1. Dust Deposition

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

At the Southern Portal worksite, the Southern dust deposition gauge was damaged during sampling and no valid data was recorded. The gauge was fixed for the following reporting period. Dust deposition results are detailed in **Appendix A** (Table 7 and Figure 1) and **Appendix B** (Table 4.2).

A summary of dust deposition monitoring is provided in the table below.

Air Quality – Dust Deposition Monitoring			
Area	Worksite	Monitoring Location	Comments
Mayne Area	Mayne Yard	Mayne Yard East	- Results met air quality goal
Northern Area	RNA / Exhibition	RNA Showgrounds	- Results met air quality goal
	Northern Portal	Northern Portal (near Brisbane Girls Grammar School)	- Results met air quality goal
Central Area	Albert Street	Mary Street	- Results met air quality goal
		Elizabeth Street	- Results met air quality goal
	Boggo Road	Quarry Street (north of the site)	- Results met air quality goal
		Peter Doherty Street/Leukemia Foundation	- Results met air quality goal
	Southern Portal	Dutton Park Station	- Gauge was damaged and no results were recorded.
		PA Hospital - Central Energy Unit along Kent Street	- Results met air quality goal
	Roma Street	Roma Street Station	- Results met air quality goal
	Woolloongabba	Russian Orthodox Cathedral	- Results met air quality goal
		Woolloongabba Busway	- Results met air quality goal
Southern Area	Dutton Park	Dutton Park	- Results met air quality goal
	Clapham Yard	Clapham Yard	- Results met air quality goal

<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.

At Clapham Yard, the DMP experienced technical difficulties and stopped recording data on 7 December 2022. The UNITY team are in the process of investigating the issue with the support of the supplier. In the absence of the DMP for the remainder of the month, UNITY undertook an investigation to provide supplementary information to confirm the RIS Scope of works met the project requirements. The scope of works, weather conditions, on site air quality controls, depositional dust results no air quality complaints received during the monitoring period, determines that despite the absence of the particulates data for the reporting period, the RIS scope of works has met the project outcomes set out by the CGCR and endorsed CEMP.

The Mayne Yard TSP and PM<sub>10</sub> results were indicative for 1-2 and 15-16 December 2022. UNITY is currently waiting gravimetric analysis results for the Mayne Yard DMP and Clapham Yard DMP which has resulted in only the raw data reflected in UNITY's report.

Particulates results are detailed in **Appendix A** (Section 3.2.2 and Figures 2 and 3) and **Appendix B** (Table 5).

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

Air Quality – PM <sub>10</sub> / TSP Monitoring			
Area	Worksite	Monitoring Location	Comments
Mayne Area	Mayne Yard	Mayne Yard North	- Monitoring not required as per Project's CAQP advice
	Mayne Yard	Mayne Yard East	- Results met air quality goals - Raw monitoring data reported, awaiting analysed results.
Northern Area	RNA / Exhibition	RNA showgrounds	- Results met air quality goals
	Northern Portal	Brisbane Girls Grammar School	- Results met air quality goals
Central Area	Albert St	iStay River City and Capri (Corner of Mary Street and Albert Street)	- Results met air quality goals
	Boggo Rd / Southern Portal	North-east of Boggo Road worksite	- Results met air quality goals
	Woolloongabba	Place Park, Woolloongabba	- Results met air quality goals
Southern Area	Clapham Yard	Clapham Yard	- Results met air quality goals - Monitoring unit experienced Technical difficulties and stopped recording data from 7 December 2022

### 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

Active surface water discharges occurred across the RNA, Normanby, and Northern Portal worksites through dewatering activities. Post-rainfall water quality monitoring occurred in the receiving waters of

the following sites: Northern Portal, Roma Street, Albert Street, Woolloongabba, Boggo Road and Clapham Yard during the month.

In the Northern Area, water quality monitoring was triggered at RNA and Normandy as pooled rainfall and surface runoff was discharged to the stormwater network. The RIS contractors confirmed the discharge criteria was met on both occasions. See **Appendix A** (Table 12) for further details. Water quality monitoring was also triggered on 26 occasions from the Northern Portal worksite as water used for construction activities and stormwater was treated and actively discharged to the stormwater network. The TSD contractors confirmed the discharge criteria was met on all occasions. See **Appendix B** (Table 7) for further details.

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

Routine surface water quality monitoring was undertaken in the receiving waters of all TSD worksites in accordance with the Contractor's Water Quality Management Plan. The monitoring results reflect the condition of a broader catchment upstream from the worksites. See **Appendix B** (Table 8) for further details.

Surface water quality monitoring is summarised in the table below:

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

Surface Water Quality Monitoring					
Area	Worksite	Discharge	Post-Rain Monitoring	Routine Monitoring	Comments
					- ESC was implemented in accordance with site specific ESC Plan.
Central Area	Albert Street	No	Yes	Yes	- Post-rainfall monitoring undertaken. - Routine in-stream monitoring undertaken in accordance with WQMP.
	Boggo Road	No	Yes	Yes	- Post-rainfall monitoring undertaken. - Routine in-stream monitoring undertaken in accordance with WQMP.
	Roma Street	No	Yes	Yes	- Post-rainfall monitoring undertaken. - Routine in-stream monitoring undertaken in accordance with WQMP.
	Woolloongabba	No	Yes	Yes	- Post-rainfall monitoring undertaken. - Routine in-stream monitoring undertaken in accordance with WQMP.
	Southern Portal	No	Yes	Yes	- Post-rainfall monitoring undertaken. - Routine in-stream monitoring undertaken in accordance with WQMP.
Southern Area	Fairfield Station	No	No	No	- ESC was implemented in accordance with site specific ESC Plan.
	Clapham Yard	Yes	Yes	No	- Active surface water discharge met water quality criteria. - Post-rainfall monitoring undertaken. - ESC was implemented in accordance with site specific ESC Plan.

#### 2.2.4.2. Groundwater

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

Groundwater discharge occurred in the Central Area at Roma Street, Albert Street, Woolloongabba and Boggo Road worksites. Groundwater discharge results exceeded relevant water quality objectives.



(WQO's)<sup>2</sup> for total nitrogen, ammonia nitrogen, oxidised nitrogen, organic nitrogen and dissolved oxygen. 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.

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	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
	Boggo Road / Southern Portal	Yes	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
	Roma Street	Yes	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
	Woolloongabba	Yes	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions
Southern Area	Clapham Yard	No	- No groundwater discharges.

### 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

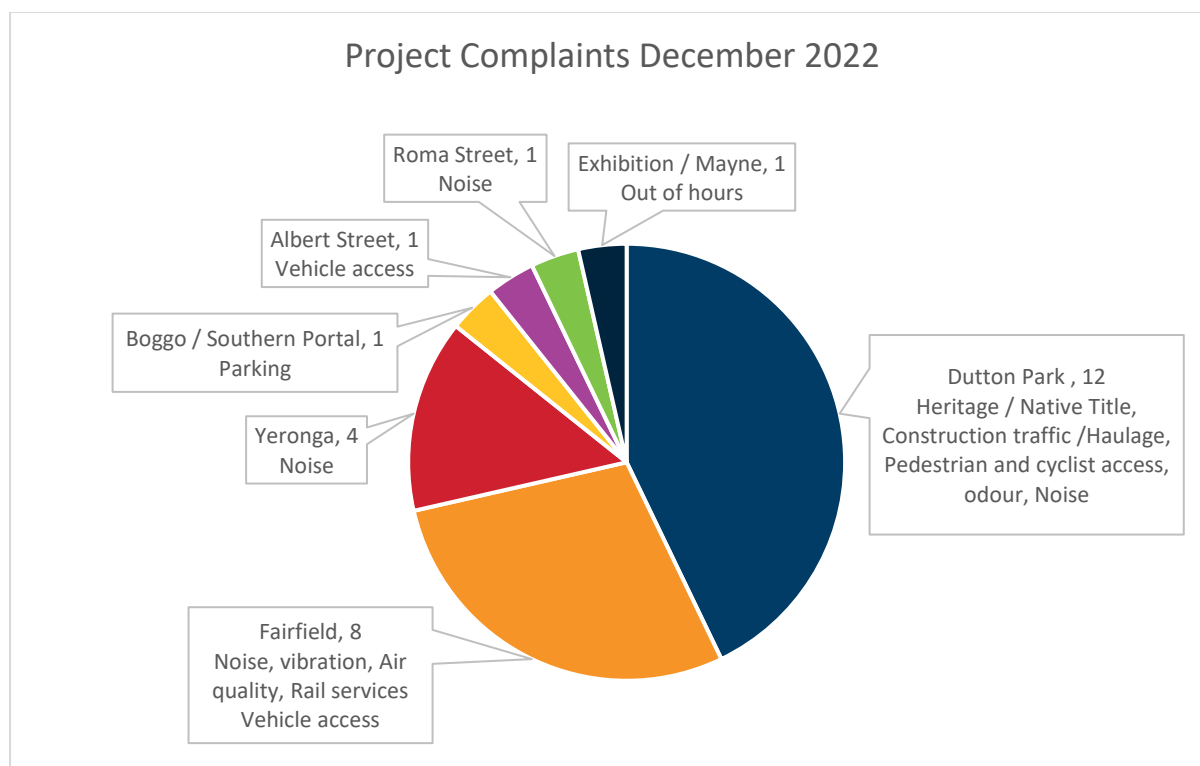
A total of 28 complaints were received during the month all of which were project related.

RIS works received 25 complaints this month during the Christmas and New Year rail possession works related to several aspects including: construction traffic/haulage, noise, vibration, odour, pedestrian and cyclist access, and air quality from Fairfield, Southern/Dutton Park, Yeronga and RNA worksites. For further details and breakdown of complaints, refer to **Appendix A** (Table 3) and Figure.

<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.

The TSD works received 3 complaints related to noise at Roma Street, parking at the Southern Portal and vehicle access at Albert Street. For further details refer to **Appendix B** (Table 10).

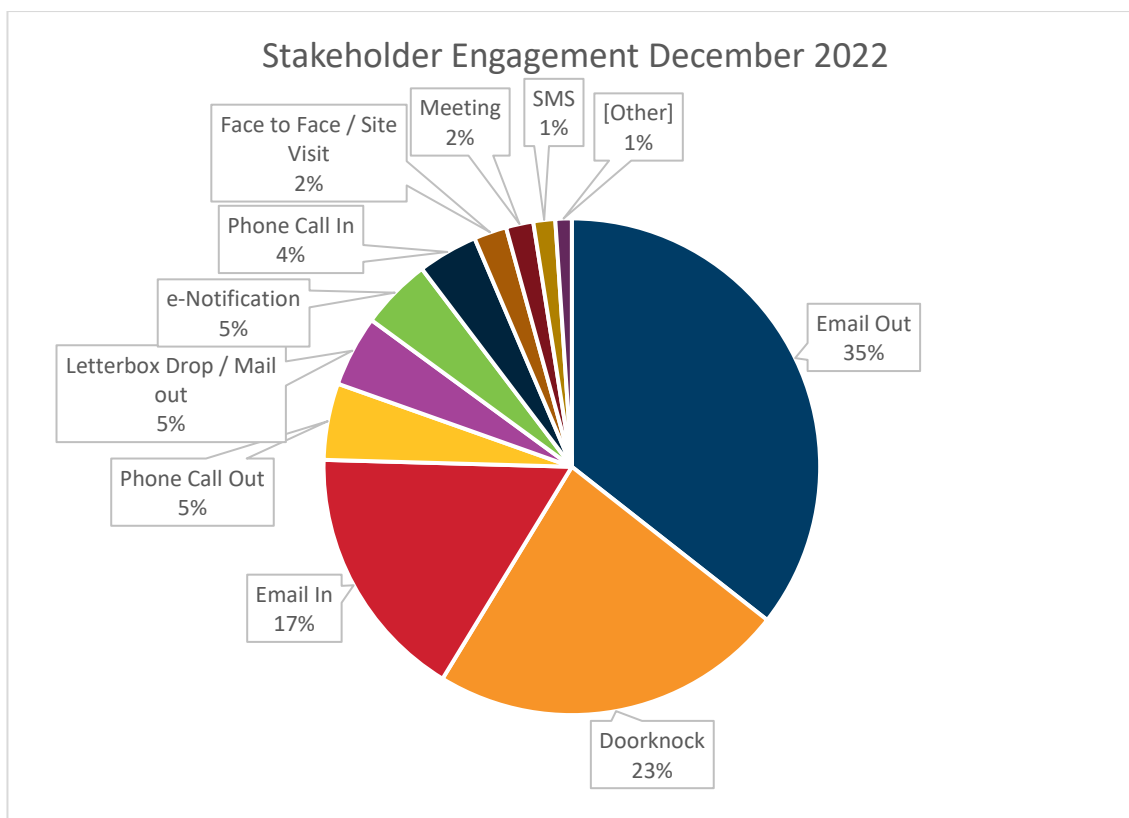
The Project Works complaints summary for the month is provided in the following chart.



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

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

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



## 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> <b>Mayne Yard East / West –</b> <ul style="list-style-type: none"> <li>Commence soil nailed wall RW115;</li> </ul>
Northern Area	<b>RNA/ Northern Corridor –</b> <ul style="list-style-type: none"> <li>Service relocations East (between Bowen Bridge Road and Ekka Station);</li> <li>Rock excavation south-eastern area of Ekka Station (not impacted by EXH Stage 2 switch); and</li> <li>Commence OHLE foundations through the corridor</li> </ul> <b>Northern Portal –</b> <ul style="list-style-type: none"> <li>Stage 2 base slab works;</li> <li>Watermain works; and</li> <li>Open trough base slab and retaining wall FRP works.</li> </ul>
Central Area	<b>Roma Street –</b> <ul style="list-style-type: none"> <li>Ongoing mezzanine beam installation;</li> <li>Station building ongoing wall and slab and column pours;</li> <li>Services building pre-cast panel installation and concrete pours; and</li> <li>Infill around INB underpinning columns and demolition of redundant columns.</li> </ul> <b>Albert Street –</b> <ul style="list-style-type: none"> <li>Lot 1 – Ongoing slip form pours (B7 – B4);</li> <li>Lot 2 – BoH (South) FRP works and commence mezzanine beam installation in North; and</li> </ul>

Area	New planned works in the coming months
	<ul style="list-style-type: none"> <li>Lot 3 – continue perimeter wall pours and lift core pours.</li> </ul> <p><b>Woolloongabba –</b></p> <ul style="list-style-type: none"> <li>Switchboards for L9 received and to be installed and connected in the new year;</li> <li>Delivery and installation of 2 transformers to be installed in B7; and</li> <li>High Voltage (HV) riser platforms installation on B1.</li> </ul> <p><b>Boggo Road –</b></p> <ul style="list-style-type: none"> <li>Commence construction of launching pit in LCA for sewer works;</li> <li>Concrete wall steel fixing and concrete pours ongoing;</li> <li>Delivery and installation of precast mezzanine beams and super-T ongoing; and</li> <li>Self-propelled modular transporter (SPMT) delivery.</li> </ul> <p><b>Southern Portal –</b></p> <ul style="list-style-type: none"> <li>Ongoing base slab and liner wall FRP works;</li> <li>Delivery of main girders to Brisbane planned for January; and</li> <li>Completion of sewer tie in works at leukemia Foundation.</li> </ul>
Southern Area	<p><b>Dutton Park –</b></p> <ul style="list-style-type: none"> <li>Continue piling – Cope St retaining walls; and</li> <li>Embankment widening in preparation for UP Sub realignment in Q2 2023.</li> </ul> <p><b>Fairfield Station –</b></p> <ul style="list-style-type: none"> <li>Ongoing station upgrades.</li> </ul> <p><b>Yeronga Station –</b></p> <ul style="list-style-type: none"> <li>Ongoing accelerated completion of all remaining scope (excluding Lift 3 and other miscellaneous items due to supply chain challenges).</li> </ul> <p><b>Clapham Yard –</b></p> <ul style="list-style-type: none"> <li>Stage 1 BR93 (Moolabin Ck track bridge) ongoing; and</li> <li>OHLE Foundations &amp; Structures continue.</li> </ul> <p><b>Rocklea Station –</b></p> <ul style="list-style-type: none"> <li>Continue OHLE foundations and structures;</li> <li>Continue FRP work for structural foundations;</li> <li>Continue inground services throughout platform areas.</li> </ul>

## 2.5 Non-Compliance Events

No new NCEs were raised this month. The summary of NCEs to date is shown in the table below.

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





# Appendix A RIS Monthly Report

# **Monthly CGCR Report December 2022**

**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	<p><b>Mayne Yard North</b></p> <ul style="list-style-type: none"> <li>Mayne Yard North handed over entirely and QR familiarisation ongoing</li> </ul> <p><b>Mayne Yard East / West</b></p> <ul style="list-style-type: none"> <li>BR11/13 (vehicle access tripod bridge over future CRR lines) nearing completion, BR08 (Breakfast Creek Bridge) temporary support works ongoing with centre span girder lifts scheduled for early Mar '23, BR12 (pedestrian bridge from Bowen Hills Station to MY-West) commenced</li> <li>Civil scope for Shunt Road and vehicle access road continuing</li> <li>Demolition of the DLP area has been completed</li> <li>Sewer underbore at Campbell Street has commenced</li> </ul>
Northern Area	<p><b>RNA</b></p> <ul style="list-style-type: none"> <li>Demolition of RNA and QR facilities completed, and rock excavation (eastern side of Ekka Station) completed</li> <li>Drainage (Eastern side) progressing well</li> </ul> <p><b>Northern Corridor</b></p> <ul style="list-style-type: none"> <li>All civil scope completed for upcoming RIS-N-9C switch into Stage 2</li> <li>Victoria Park Feeder Station civil scope completed, and switch room and transformer installed. Fit out and termination work ongoing.</li> <li>Ongoing Rail Systems scope (OHLE, Signal, Track) ongoing for lead up to upcoming RIS-N-9C switch into Stage 2</li> </ul>
Southern Area	<p><b>Southern Portal / Dutton Park</b></p> <ul style="list-style-type: none"> <li>CSR Scope including UTX's during possession windows</li> <li>Cope St Noise barrier work continuation</li> <li>Continuation of piling works for Cope Street retaining walls and noise walls</li> <li>OHLE Foundations &amp; Structures continue</li> <li>Turnout installed in previous SCAS by Track Team</li> <li>Signalling team continue modify existing signalling infrastructure</li> </ul>
Southern Area	<p><b>Fairfield Station</b></p> <ul style="list-style-type: none"> <li>All works leading up to and in readiness for the station re-opening planned on 9 January 22</li> <li>Platform 3 slab pours completed – all slab pours now complete</li> <li>OHLE Foundations &amp; Structures continue</li> </ul>
Southern Area	<p><b>Yeronga Station</b></p> <ul style="list-style-type: none"> <li>Large volume of scope progressed on and off platform heading toward final completion</li> <li>Energisation, testing &amp; commissioning of permanent power and downstream sub-boards, lighting, lifts, and mechanical items.</li> <li>OHLE Foundations &amp; Structures continue</li> </ul>
Southern Area	<p><b>Clapham Yard</b></p> <ul style="list-style-type: none"> <li>BR93 (Moolabin Creek Track Bridge) FRP deck pours completed</li> <li>BR94 (Chale Street Bridge) FRP scope and RSS wall RW640 completed for Southern side incl girder installation Southern Span 2</li> <li>Drainage (outside the future yard) completed</li> <li>OHLE Foundations &amp; Structures continue</li> </ul>

Area	Project Works
Southern Area	<b>Rocklea Station</b> <ul style="list-style-type: none"> <li>Completed all station piles</li> <li>Continued inground services throughout platform areas</li> <li>Commenced FRP work for structural foundations</li> <li>Installation of buildings and facilities for the Rocklea office compound setup.</li> <li>OHLE Foundations &amp; Structures continue</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>No update</li> </ul> <b>Mayne Yard East / West</b> <ul style="list-style-type: none"> <li>Commence soil nailed wall RW115</li> </ul>
Northern Area	<b>RNA</b> <ul style="list-style-type: none"> <li>Rock excavation south-eastern area of Exhibition station (not impacted by EXH Stage 2 switch)</li> <li>Service relocations East (between Bowen Bridge Road and Exhibition station).</li> </ul> <b>Northern Corridor</b> <ul style="list-style-type: none"> <li>Ongoing OHLE foundations through the corridor</li> </ul>
Southern Area	<b>Southern Portal / Dutton Park</b> <ul style="list-style-type: none"> <li>Continue piling – Cope St retaining walls</li> <li>Embankment widening in preparation for UP Sub realignment in Q2 2023</li> </ul>
Southern Area	<b>Fairfield Station</b> <ul style="list-style-type: none"> <li>Ongoing station upgrades</li> </ul>
Southern Area	<b>Yeronga Station</b> <ul style="list-style-type: none"> <li>Ongoing accelerated completion of all remaining scope (excluding Lift 3 and other miscellaneous items due to supply chain challenges)</li> </ul>
Southern Area	<b>Clapham Yard</b> <ul style="list-style-type: none"> <li>OHLE Foundations &amp; Structures continue</li> <li>Stage 1 BR93 (Moolabin Ck track bridge) ongoing</li> </ul>
Southern Area	<b>Rocklea Station</b> <ul style="list-style-type: none"> <li>Continue inground services throughout platform areas</li> <li>Continue FRP work for structural foundations</li> <li>Continue OHLE foundations and structures</li> </ul>



## 2 Complaints

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

Table 3: Summary of Complaints

Date Received	Location	Issue	Project Works / Activity source of the concern	Reporting Period	Complaint Detail	Unity Response	Status
Friday 2 December 2022	Fairfield	Construction Programme	Station upgrade works	December 2022	Stakeholder complained about the re-opening date being pushed to early 2023.	Team provided an update on construction progression and advised the station would re-open mid-January after a 10-day track closure	Closed
Friday 2 December 2022	Fairfield	Noise	Site office compound	December 2022	Stakeholder complained about noise coming from generators and advised it was disturbing their sleep.	Team advised that the mains power connection was delayed by the electricity supplier and was scheduled to be connected as soon as possible.	Closed
Thursday 8 December 2022	Dutton Park	Heritage	Platform waiting shelter removal	December 2022	Stakeholder complained about the waiting shelter being demolished.	Team provided information on the condition of the shelter and why it could not be incorporated back into the station design.	Closed
Thursday 8 December 2022	Dutton Park	Heritage	Platform waiting shelter removal	December 2022	Stakeholder complained about the waiting shelter being demolished and lack of community consultation.	Team provided information on the communications that had occurred regarding the Dutton Park Station upgrade. Provided information on the condition of the shelter and why it could not be incorporated back into the station design.	Closed
Thursday 8 December 2022	Dutton Park	Heritage	Platform waiting shelter removal	December 2022	Stakeholder complained about the waiting shelter being demolished.	Team provided information on the condition of the shelter and why it could not be incorporated back into the station design. Provided information on heritage structure retention and salvaging of artefacts elsewhere on the Project.	Closed
Friday 9 December 2022	Yeronga	Noise	Station upgrade works	December 2022	Stakeholder complained about construction noise at night disrupting their sleep.	Team advised the activity that disrupted their sleep had to occur at night. Team apologised for the inconvenience and provided ear plugs and respite voucher.	Closed
Friday 9 December 2022	Yeronga	Lighting	Station upgrade works	December 2022	Stakeholder complained about construction light at night disrupting their sleep.	Team advised the activity that disrupted their sleep had to occur at night. Provided an update on construction completion and apologised for the inconvenience.	Closed
Friday 9 December 2022	Dutton Park	Heritage	Platform waiting shelter removal	December 2022	Stakeholder complained about the waiting shelter being demolished.	Team provided information on the condition of the shelter and why it could not be incorporated back into the station design or repurposed.	Closed

Date Received	Location	Issue	Project Works / Activity source of the concern	Reporting Period	Complaint Detail	Unity Response	Status
Saturday 10 December 2022	Yeronga	Noise	Station upgrade works	December 2022	Stakeholder complained about works occurring at night without acoustic blankets present.	Team advised they spoke to the Supervisor who immediately set up the acoustic blankets. Advised that recent landscaping works had taken place and the acoustic blankets were re-installed.	Closed
Saturday 10 December 2022	Yeronga	Traffic	Station upgrade works	December 2022	Stakeholder complained about crane set up blocking access to their garage and driveway.	Team contacted the Supervisor who had the vehicle blocking access removed. Stakeholder was advised that access had been reinstated.	Closed
Saturday 10 December 2022	Dutton Park	Traffic	Station upgrade works	December 2022	Stakeholder complained about traffic and rail signage being left up after rail closures and pedestrian and cyclist access being blocked.	Team apologised for the inconvenience and advised they will speak to the Dutton Park team and will address access in future possessions.	Closed
Saturday 10 December 2022	Yeronga	Noise	Station upgrade works	December 2022	Stakeholder complained about construction noise at night disrupting their sleep.	Team provided update on construction and discussed possibility of relocation during future rail closures. Team apologised for the inconvenience and advised they would speak with the Yeronga team regarding alternative access into the rail corridor.	Closed
Monday 12 December 2022	Fairfield	Noise	Site office compound	December 2022	Stakeholder complained about generator noise and advised it was disturbing their sleep.	Team spoke with the Supervisor and reconfigured power supply and one of the generators was switched off. The other two generators are fully shrouded with acoustic blankets. Advised the power connection was delayed by the energy supplier but will be connected as soon as possible.	Closed
Monday 12 December 2022	Fairfield	Noise	Site office compound	December 2022	Stakeholder complained about generator noise and advised it was disturbing their sleep.	Team advised the mains power connection has been escalated with the energy supplier and the team is following up with the Fairfield Team daily to a confirm connection date.	Closed
Sunday 25 December 2022	Dutton Park	Noise	December SCAS Works	December 2022	Stakeholder complained about noise from night works.	Team investigated what works were occurring and provided a respite voucher for the stakeholder.	Closed
Sunday 25 December 2022	Dutton Park	Traffic	December SCAS Works	December 2022	Stakeholder complained about trucks parking out the front of their property.	Team spoke with the Supervisor and the trucks were moved on.	Closed
Sunday 25 December 2022	Dutton Park	Noise	December SCAS Works	December 2022	Stakeholder complained about rock breaking activities being undertaken on Christmas Eve and Christmas day.	Team advised the works had to occur at this time due to rail closure requirement. Team apologised for the inconvenience.	Closed

Date Received	Location	Issue	Project Works / Activity source of the concern	Reporting Period	Complaint Detail	Unity Response	Status
Tuesday 27 December 2022	Dutton Park	Traffic	December SCAS Works	December 2022	Stakeholder complained about trucks parking in residential streets.	Team discussed the various vehicles parking in residential streets. Team contacted the Supervisor to speak with the haulage company and an alternative location was found.	Closed
Wednesday 28 December 2022	Dutton Park	Odour	December SCAS Works	December 2022	Stakeholder complained about smell of cigarettes during night works.	Team contacted the site team and traffic controllers regarding smoking near residential areas.	Closed
Wednesday 28 December 2022	Fairfield	Noise	December SCAS Works	December 2022	Stakeholder complained about ongoing sleep disruption from night works.	Team advised there were no planned night works at Fairfield in the current rail closure. Advised the stakeholder a review will be undertaken to determine if they qualify for alternative accommodation for future night works.	Closed
Thursday 29 December 2022	Fairfield	Dust	December SCAS Works	December 2022	Stakeholder complained about dust generation from earthworks.	Team advised that the Environment Manager attended site and completed an inspection.  The Environment Manager confirmed dust mitigation measures were in place during earthworks including water spraying during rock and concrete breaking.	Closed
Friday 30 December 2022	Dutton Park	Traffic	December SCAS Works	December 2022	Stakeholder complained about wayfinding and potential safety issues navigating temporary road closures.	Team thanked the stakeholder for raising their concerns. Team spoke with the Supervisor who confirmed they completed an audit of the TGS set up and minor adjustments were made.	Closed
Saturday 31 December 2022	Dutton Park	Odour	December SCAS Works	December 2022	Stakeholder complained of unusual burning smell coming from the work site.	Team confirmed and advised the stakeholder that a gas axe was used to remove two structures and it was not toxic.	Closed
Saturday 31 December 2022	Fairfield	Noise	December SCAS Works	December 2022	Stakeholder complained about loud works and requested relocation.	Team advised that the loud works were almost complete, and the site team will not be working 3 – 9 January 2023 which would provide respite.	Closed
Saturday 31 December 2022	Dutton Park	Traffic	December SCAS Works	December 2022	Stakeholder complained about cyclist wayfinding during rail closure.	Team thanked the stakeholder for raising their concerns. Complaint was forwarded to the traffic management team and alterations to the set up were made during the rail closure.	Closed

## 3 Environmental Monitoring Results

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

### 3.1 Acoustics

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

#### 3.1.1 Noise Monitoring

Attended noise monitoring was 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 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 3.1.6
Fairfield	Residential	Attended – Outdoors	Standard Hours	Tuesday, 6 December 2022 11:28am	Intermittent	Complaint response	63	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	62	60	Yes	No	Monitoring of generator was undertaken approximately 23m away and confirmed it was a continuous noise source. Monitoring was undertaken during standard hours in response to complaints received for generator use during extended hours. Works notice included the use of generators for the crib area.
Southern	Residential	Attended – Outdoors	Standard Hours & Extended Hours Work	Saturday, 24 December 2022 10:05am	Intermittent	Model verification	66	<b>Standard Hours Work</b> 65 (Outdoors) (55dBA + 10dBA façade reduction)  <b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Standard Hours Work</b> 85 (Outdoors) (65dBA + 20dBA)  <b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	67	63	Yes	Yes Goal 1 only	Monitoring of excavator placing rock and gravel approximately 24m away from the source. Works notice covered these works.
Southern	Residential	Attended – Outdoors	Standard Hours & Extended Hours Work	Saturday, 24 December 2022 11:04am	Intermittent	Model verification	66	<b>Standard Hours Work</b> 65 (Outdoors) (55dBA + 10dBA façade reduction)  <b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Standard Hours Work</b> 85 (Outdoors) (65dBA + 20dBA)  <b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	69	66	Yes	Yes Goal 1 only	Monitoring of static roller approximately 28m away from the source. Works notice covered these works.
Southern	Residential	Attended – Indoors	Standard Hours & Extended Hours Work	Saturday, 24 December 2022 02:30pm	Intermittent	Model verification	48	<b>Standard Hours Work</b> 55 (Indoors)  <b>Extended Hours Work</b> 42 (Indoors)	<b>Standard Hours Work</b> 75 (Indoors) (55dBA + 20dBA)  <b>Extended Hours Work</b> 62 (Indoors) (42dBA + 20dBA)	43	42	N/A UNITY site office	Yes Goal 1 only	Opportunistic monitoring of a concrete saw under Annerley Rd bridge was undertaken indoors approximately 28m away from the source. Works notice not required for this DAP as it is a UNITY site office. Use of concrete saw included in works notice for other DAPs.
Southern	Residential	Attended – Outdoors	Extended Hours Work	Monday, 26 December 2022 08:37am	Intermittent	Model verification	68	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	67	66	Yes	Yes Goal 1 only	Monitoring of excavator cutting batter in preparation for retaining wall works. Works notice covered these works.
Southern	Residential	Attended – Outdoors	Extended Hours Work	Monday, 26 December 2022 08:56am	Intermittent	Model verification	63	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	67	66	Yes	Yes Goal 1 only	Vehicle movements were recorded, and monitor was set up approximately 45m from the load out area. Actual noise emissions were 5dBA louder than predicted due to traffic passing by and plant idling closer to the monitor than the load out area. Works notice covered these works.

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 3.1.6
Southern	Residential	Attended – Outdoors	Extended Hours Work	Monday, 26 December 2022 09:18am	Intermittent	Model verification	60	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	60	65	Yes	Yes Goal 1 only	Vehicle movements were recorded, and monitor was set up approximately 45m from the load out area. Actual noise emissions were 5dBA louder than predicted due to traffic passing by and plant idling closer to the monitor than the load out area.  Works notice covered these works.
Southern	Commercial	Attended – Indoors	Extended Hours Work	Monday, 26 December 2022 12:14pm	Intermittent	Model verification	58	<b>Extended Hours Work</b> 42 (Indoors)	<b>Extended Hours Work</b> 62 (Indoors) (42dBA + 20dBA)	49	47	N/A UNITY site office	Yes Goal 1 only	Monitoring of concrete breaking with hydraulic hammer undertaken indoors (windows closed) approximately 56m away from the source.  Works notice covered these works.
Southern	Commercial	Attended – Indoors	Extended Hours Work	Monday, 26 December 2022 12:30pm	Intermittent	Model verification	68	<b>Extended Hours Work</b> 42 (Indoors)	<b>Extended Hours Work</b> 62 (Indoors) (42dBA + 20dBA)	57	52	N/A UNITY site office	Yes Goal 1 only	Monitoring of concrete breaking with hydraulic hammer undertaken indoors (windows open) approximately 56m away from the source.  Works notice covered these works.
Fairfield	Residential	Attended - Outdoors	Extended Hours Work	Tuesday, 27 December 2022 10:00am	Intermittent	Model verification	94	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	87	82	Yes	Yes Goal 1 & 2	Monitored breaking of former pedestrian overpass footing with hydraulic hammer approximately 56m away from the works.  Works notice included rock breaking as an activity and case by case consultation was completed as part of the Out of Hours Works Permit process. Therefore, despite exceedance of the goals, the works were compliant.
Fairfield	Residential	Attended - Outdoors	Extended Hours Work	Tuesday, 27 December 2022 12:00pm	Intermittent	Model verification	77	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	75	72	Yes	Yes Goal 1 & 2	Monitored vac truck operating approximately 14m away from the source.  Works notice covered these works.
Fairfield	Residential	Attended - Outdoors	Extended Hours Work	Tuesday, 27 December 2022 12:30pm	Intermittent	Model verification	82	<b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	66	62	Yes	Yes Goal 1 only	Monitored breaking of former pedestrian overpass footing with hydraulic hammer approximately 53m away from the works.  Works notice included rock breaking as an activity.



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 3.1.6
Fairfield	Residential	Attended - Outdoors	Standard Hours & Extended Hours Work	Wednesday, 28 December 2022 08:17am	Continuous	Model verification	60	<b>Standard Hours Work</b> 55 (Outdoors)  <b>Extended Hours Work</b> 45 (Outdoors)	<b>Standard Hours Work</b> 75 (Outdoors) (55dBA + 20dBA)  <b>Extended Hours Work</b> 65 (Outdoors) (45dBA + 20dBA)	61	60	Yes	Yes Goal 1 only	Monitored two hire caravan generators located inside workforce designated parking/ crib area approximately 26m away from the source.  Monitoring confirmed the generators are a continuous noise source.  <i>Note: during the surveillance regime carried out by the Unity environment team, it was identified that the Works notification for Fairfield did not identify this area as potentially being used as a laydown. It was however part of the road closure authorised under the Approved traffic permit. This finding is being managed under the UNITY corrective action protocols as per Section 6 of the endorsed C-EMP.</i>
Fairfield	Residential	Attended - Outdoors	Standard Hours & Extended Hours Work	Wednesday, 28 December 2022 09:00am	Intermittent	Model verification	75	<b>Standard Hours Work</b> 65 (Outdoors) (55dBA + 10dBA façade reduction)  <b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Standard Hours Work</b> 85 (Outdoors) (65dBA + 20dBA)  <b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	70	68	Yes	Yes Goal 1 only	Monitored a franna crane during lift operations approximately 13m away from the works.  Works were monitored during standard hours; however same activity was also undertaken during public holiday (extended hours).  <i>Note: during the surveillance regime carried out by the Unity environment team, it was identified that the Works notification for Fairfield did identify this area as potentially being used as a laydown. It was however part of the road closure authorised under the Approved traffic permit. This finding is being managed under the UNITY corrective action protocols as per Section 6 of the endorsed C-EMP.</i>
Fairfield	Residential	Attended - Outdoors	Standard Hours & Extended Hours Work	Thursday, 29 December 2022 08:40am	Intermittent	Model verification	72	<b>Standard Hours Work</b> 65 (Outdoors) (55dBA + 10dBA façade reduction)  <b>Extended Hours Work</b> 52 (Outdoors) (42dBA + 10dBA façade reduction) <sup>2</sup>	<b>Standard Hours Work</b> 85 (Outdoors) (65dBA + 20dBA)  <b>Extended Hours Work</b> 72 (Outdoors) (52dBA + 20dBA)	69	69	Yes	Yes Goal 1 only	Monitored truck movements and idling approximately 13m away from the source.  Case by case consultation had occurred for these works.

- Note 2 of Imposed Condition 11 Table 2 states *Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (PFNC) apply.*
- The monitoring was undertaken to validate the model therefore external noise measurements are appropriate to determine the impact of construction noise.
- Note (2) – Façade Attenuation
  - Note 2 of Imposed Condition 11 Table 2 states *Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (PFNC) apply.*
  - The PFNC guideline can no longer be accessed. The Department of Environment and Science (DES) website still states this guideline is under review and is yet to release an alternative guideline
  - Former revisions of the PFNC table 7 stated the following regarding typical noise reductions through the building façade:
    - 5 dB – Window wide open
    - 10 dB – Partially closed
    - 20 dB – Single glazed, closed
    - 25 dB – Thermal double glazing, closed
  - The RfPC-4 Technical Report considered that all receptors had closed external single glazing for the assessment of construction noise impacts.

- The Queensland Ombudsman assessed this assumption for the Airport Link Project and recommended that 10dB be adopted for major infrastructure projects in Queensland<sup>1</sup>.
- Additionally, several acoustic studies have shown that 10 dB is a suitable assumption for open windows. Most importantly this requirement only applies to temporary rail works within the project footprint and does not apply to long-term operational rail noise exposure.
- Accordingly, it is considered appropriate to consider a 10 dB reduction on this basis. This assumption can be used for predictive modelling and for noise measurements, where indoor noise measurements are not practicable.

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

### 3.1.3 Vibration Monitoring

Vibration monitoring to validate the predictive model was triggered for:

- The use of a 7.5t hammer at the RNA Showgrounds in proximity to State heritage listed buildings (John MacDonald Stand and Royal International Convention Centre).

The results are presented in the below Table.

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

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

### 3.1.4 Vibration Monitoring Results

Table 5 Summary of Vibration Data

Location	Date (Start and Finish)	Time of day	Closest DAP / Sensitive Place	Receiver Type (table 3 – Imposed Condition 11(e))	Purpose of Monitoring	Vibration intensive equipment	Maximum predicted vibration Level (mm/s)	Shortest distance between Equipment and Sensitive Place (m) @Time of Monitoring"	Maximum recorded vibration level (mm/s)	Vibration goal for receiver (mm/s)	Exceedance of vibration limit?	Comments
Royal International Convention Centre	01/12/2022 to 31/12/2022	24 hours/ 7days	Royal International Convention Centre	Heritage – DIN4150 Group 3	Construction Monitoring at Sensitive Places – Model Verification	7.5T hydraulic hammer	2.1mm/s	36m	0.29mm/s	3mm/s	No	Monitor was installed at the façade of the building within a storage room approximately 36m from the hydraulic hammer. Short bursts of hammering were recorded and the peak VSUM was 0.29mm/s. Line drilling had been carried out ahead of rock breaking to create fracture zones and facilitate rock hammering. The line drilling is likely to be the reason the actual vibration levels are significantly lower than the predicted level.

### 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

Fourteen (14) rounds of noise monitoring of noise intensive activities associated with station upgrade Works and the December SCAS Project Works were carried out externally and internally during Standard and Extended Hours (public holidays) to validate the noise modelling outputs.

These activities were undertaken at residential and commercial place/s closest to the Works.

The noise monitoring confirmed that the actual noise emissions are consistent with the predicted noise emissions. Providing assurance to the Project Team that the predictive noise modelling can be used as a reliable tool to guide community engagement prior to and during the Project Works.

Since:

- The Works were authorised to proceed under Imposed Condition 10 as they were carried out during Surface Works Standard Hours and Extended Hours Work (approved road possession and/or rail possession), and
- DAP engagement had also occurred with the level of consultation as per the requirements of Imposed Condition 11 (c).

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

#### 3.1.6.2 Complaints Response

One round of noise monitoring was undertaken in response to complaints received about generator usage associated with the Fairfield site compound area.

Monitoring was undertaken during Standard Work Hours; however, the complaint was for generator usage during Extended Hours. The measured LA<sub>10</sub> readings confirmed the Extended Hours Noise Goal + 20dBA was not exceeded.

The Works were authorised to proceed under Imposed Condition 10 as they were carried out during Extended Work Hours (under approved road and rail possession). DAP engagement had also occurred with the level of consultation as per the requirements of Imposed 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

#### 3.1.7.1 Model Verification

##### 3.1.7.1.1 Royal International Convention Centre Results

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

The peak reading of 0.29 mm/s occurred on 15 December 2022 and was associated with the use of a 7.5T hydraulic hammer on a 50T excavator as per the predictive model.

The maximum recorded vibration level was an order of magnitude lower than the predicted levels.

This reduction in vibration levels compared to predicted levels is likely linked to the rock breaking preparation works which consisted of line drilling.

The line drilling was carried out to create fractures through the rock to facilitate the rock breaking. By creating these lines of fractures, it allowed for the energy from the hammering to be quickly dissipated, resulting in a reduction of actual vibration emission.

Furthermore, as the rock breaking consisted of lowering a rock shelf, as the rock breaking progressed, the distance between the activities and the sensitive buildings increased, further reducing the vibration emission at those buildings.

No exceedances of the vibration goal were recorded.

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

## 3.2 Air Quality

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

Visual monitoring was undertaken during routine environmental inspections. A total of 33 inspections were undertaken by the Environment Team across Mayne Yard, RNA Showgrounds, Northern Corridor, Southern Area, Fairfield Station, Yeronga Station, Clapham Yard and Rocklea Station.

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

Table 6: Summary of Air Quality monitoring devices

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
Dust Deposition Gauge	RNA Showgrounds	AQ-01	13 December 2019	Active
Dust Deposition Gauge	Mayne Yard (Eastern Air Shed)	AQ-04	13 February 2020	Active
Dust Deposition Gauge	Clapham Yard (Eastern Air Shed)	AQ-06	1 February 2021	Active
Dust Deposition Gauge	Yeronga Station	AQ-07	12 August 2021	Inactive DDG was decommissioned on 10 December 2021 following the completion of earthworks
Dust Deposition Gauge	Dutton Park	AQ-08	8 July 2022	Active
TSP / PM <sub>10</sub> Monitor	Mayne Yard North (Eastern Air Shed)	AQ-04	26 August 2022	Inactive as of 11 May 2022 CAQP confirmed that the Mayne Yard DMP can be temporarily decommissioned following the completion of Mayne Yard North earthworks. DMP was reinstated for Mayne Yard East Works on 26 August 2022 – see below
TSP / PM <sub>10</sub> Monitor	Mayne Yard East (Eastern Air Shed)	Mayne Yard East	26 August 2022	Active
TSP / PM <sub>10</sub> Monitor	Clapham Yard (Eastern Air Shed)	Clapham Yard	9 August 2021	Active
TSP / PM <sub>10</sub> Monitor	RNA (Western Air Shed)	RNA	25 August 2020	Active

### 3.2.1 Dust results

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

- Mayne Yard, RNA and Dutton Park:
  - 11 November 2022 – 12 December 2022
- Clapham Yard
  - 10 November 2022 – 12 December 2022

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 Abbotsford Rd (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	60	33	47	80
Total Rainfall during Period (mm)	71.6mm	71.4mm	91mm	59.8mm

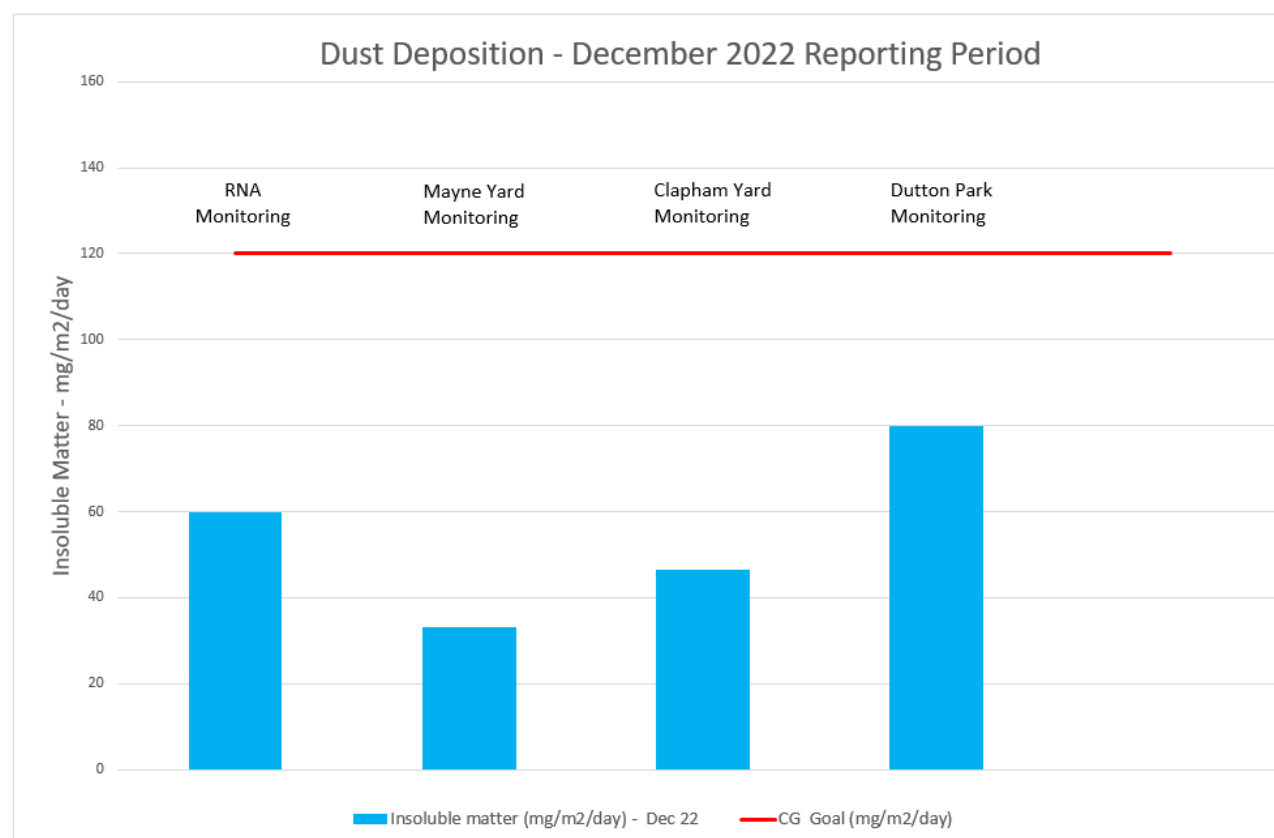


Figure 1 Air Quality Monitoring (Deposited Dust) Results

## 3.2.2 Particulates results

### 3.2.2.1 Air Quality Monitoring Stations

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

### 3.2.2.2 Monitoring Results – Reporting Period

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

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

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

It is noted that the results for TSP and  $\text{PM}_{10}$  are indicative only for the following periods:

- Mayne Yard:
  - 1 – 2 December 2022
  - 15 – 16 December 2022

UNITY is currently awaiting gravimetric analysis results for the Mayne Yard DMP and Clapham Yard which are required to correct the raw data recorded over the reporting period.

As a result, Figure 2 Air Quality Monitoring (TSP) Results below reflects raw data for the Mayne Yard DMP. The RNA data results have been corrected.

The Clapham Yard DMP experienced data recording failure from 7 December 2022 onwards. As a result, there is no data for this period for Clapham Yard during the reporting period.

The issue is being investigated with the equipment supplier, however the primary technician who has previously serviced UNITY's DMPs was on extended leave and unable to identify and resolve the issue prior to finalising this report.

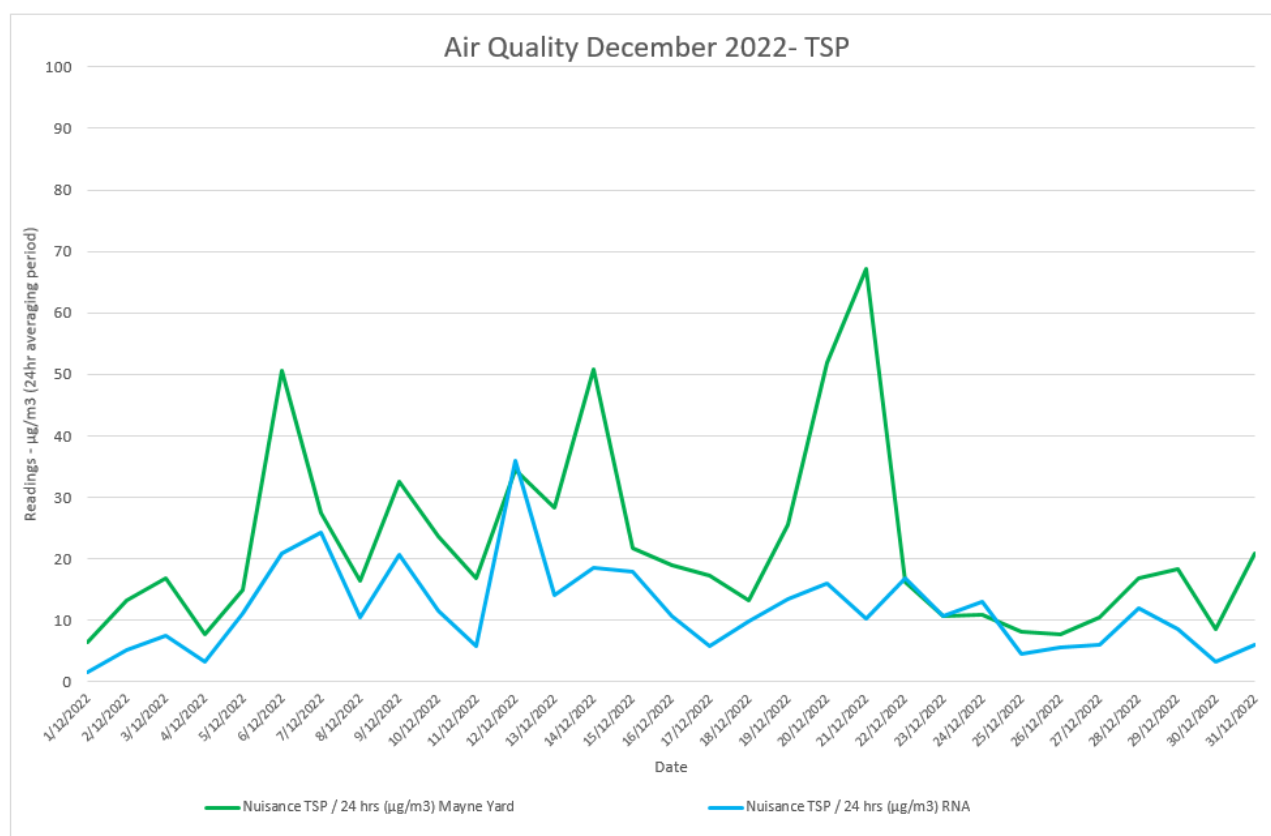


Figure 2 Air Quality Monitoring (TSP) Results

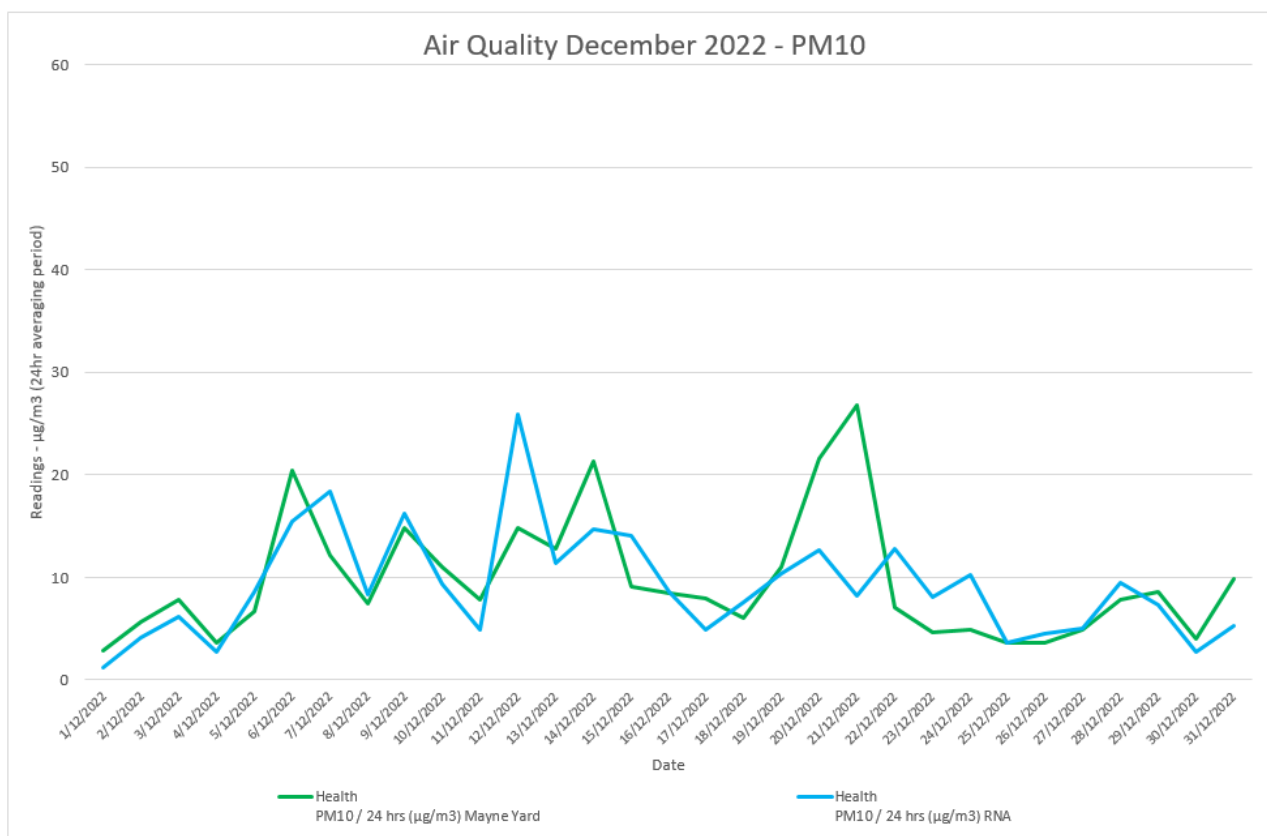


Figure 3 Air Quality Monitoring (PM10) Results

### 3.2.3 Monitoring Results – Annual Averaging

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

The below table summarises where TSP and PM<sub>10</sub> monitoring have been carried out over the last 12 months.

The National Environment Protection (Ambient Air Quality) Measure Technical Paper No.5 provides guidance and procedures for uniform data recording and handling.

(<https://www.nepc.gov.au/system/files/resources/9947318f-af8c-0b24-d92804e4d3a4b25c/files/aaqprctp05datacollection200105final.pdf>).

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

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

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

Table 8: Summary of Air Quality Monitoring Devices Over 12 months

Monitoring Device Installed by UNITY	Area	Date Installed	Date Decommissioned	Number of days data was captured over 365 days period	Data capture over an annual period	Annual performance reporting
TSP / PM <sub>10</sub> Monitor	Northern Corridor (Eastern Air Shed)	23 April 2020	13 January 2021	260 over 365 days	71% over 365 days	<i>Indicative only</i> Data capture did not meet the minimum data capture requirements
TSP / PM <sub>10</sub> Monitor	Mayne Yard North (Eastern Air Shed)	23 April 2020	11 May 2022	<b>Period 1</b> (to 23 April 2021) 358 over 365 days <b>Period 2</b> (24 April 2021 to 25 April 2022) 364 over 365 days <b>Period 3</b> (26 April 2022 to 11 May 2022) 3 days over 16 days	<b>Period 1</b> 98% over 365 days <b>Period 2</b> 99% Over 365 days <b>Period 3</b> 17% Over 17 days	<b>Applicable for Period 1</b> Data capture met minimum data capture requirements <b>Applicable for Period 2</b> Data capture has met minimum data capture requirements <b>Applicable for Period 3</b> Data capture has not met minimum data capture requirements
TSP / PM <sub>10</sub> Monitor	Mayne Yard East (Eastern Air Shed)	26 August 2022	Not yet decommissioned	<b>Period 1</b> (Started 26 August 2022) 122 days over 128 days	<b>Period 1</b> 95% Over 128 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) 126 over 143 days	<b>Period 1</b> 86% over 365 days <b>Period 2</b> 79% Over 365 days <b>Period 3</b> 88% Over 143 days	<b>Applicable for Period 1</b> Data capture met minimum data capture requirements <b>Applicable for Period 2</b> Data capture met minimum data capture requirements <b>Not yet applicable for Period 3</b> Data capture has not yet met minimum data capture requirements

Monitoring Device Installed by UNITY	Area	Date Installed	Date Decommissioned	Number of days data was captured over 365 days period	Data capture over an annual period	Annual performance reporting
TSP / PM <sub>10</sub> Monitor	Clapham Yard (Eastern Air Shed)	1 February 2021	Not yet decommissioned	<b>Period 1</b> (to 31 January 2022) 326 over 364 days <b>Period 2</b> (started 01 February 2022) 190 over 334 days	<b>Period 1</b> 90% over 364 days <b>Period 2</b> 57% Over 334 days	<b>Applicable for Period 1</b> Data capture met minimum data capture requirements <b>Not yet applicable for Period 2</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>	11 µg/m <sup>3</sup>
		Period 3	-	Not applicable	-	Not yet applicable	Not yet applicable
PM <sub>10</sub> 25 µg/m <sup>3</sup>		Period 1	5 µg/m <sup>3</sup>	7 µg/m <sup>3</sup>	Not yet applicable	11 µg/m <sup>3</sup>	5 µg/m <sup>3</sup>
		Period 2	-	7 µg/m <sup>3</sup>	-	10 µg/m <sup>3</sup>	9 µg/m <sup>3</sup>
		Period 3	-	Not yet applicable	-	Not yet applicable	Not yet applicable

## 3.2.4 Interpretation

### 3.2.4.1 Particulates Results

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

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

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

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

During the reporting period:

- None of the particulate results exceeded their relevant goals for TSP and PM<sub>10</sub>
- There were no complaints received associated with air quality concerns during the reporting period for the sites of Mayne Yard, RNA and Clapham Yard.

One complaint was received during the reported period which included concerns about air quality at Fairfield. Consistent with the predictive air quality assessment and the activities being carried out during the reporting period there was no requirement for UNITY to carry out the particulate monitoring at Fairfield.

### 3.2.4.2 Clapham Yard December Interpretation

In the absence of particulates data (TSP and PM<sub>10</sub>) for the reporting period at Clapham Yard, UNITY has undertaken an investigation to provide supplementary information to confirm the RIS scope of works has met the project outcomes set out by the CGCR and the OEMP.

#### 3.2.4.2.1 Unity Works

During the reporting period, UNITY undertook primarily structures works associated with BR93 and BR94 at Clapham Yard. Throughout the December SCAS (24 – 31 December 2022), Clapham Yard was utilised as a staging facility for the temporary stockpiling of excess spoil removed from Dutton Park and the F2S rail corridor. This was due to consecutive public holidays during the SCAS which resulted in approved landfill disposal facilities being closed. During the period where Clapham Yard was utilised as a staging facility, water carts were on constant rotation spraying haulage roads.

### 3.2.4.2.2 Meteorological Conditions

As shown on the wind rose below (refer Figure 4), the predominant winds were south-easterly. Meaning any potential dust generated from UNITY works would have travelled west away from the sensitive residential receivers located on Ipswich Road.

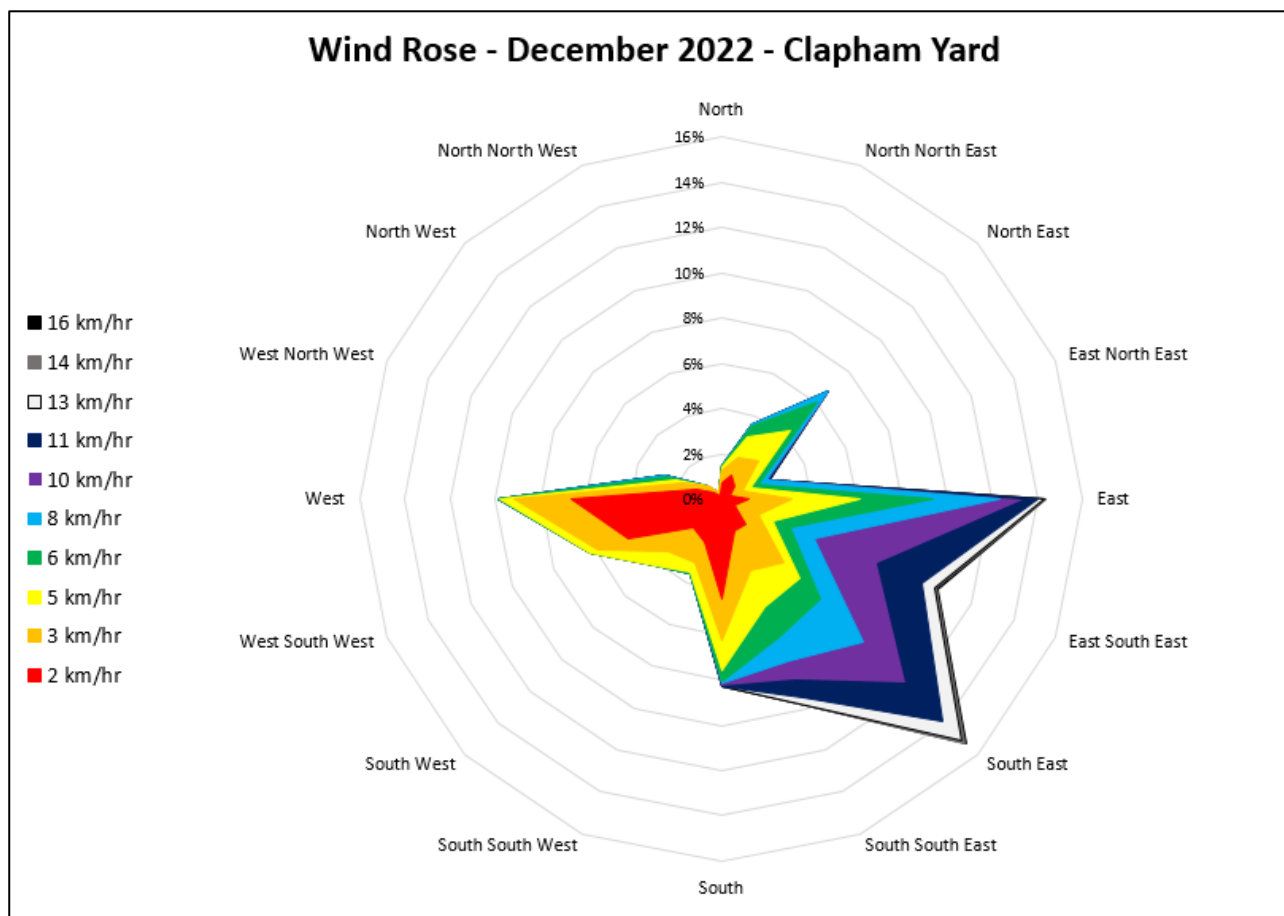


Figure 4 Clapham Yard December 2022 Wind Rose

### 3.2.4.2.1 Air Quality Complaints

During the reporting period there were no air quality complaints received for works associated with Clapham Yard from nearby sensitive receivers. This is despite Clapham Yard being used as a staging facility for temporary spoil stockpiling associated with the December SCAS.

### 3.2.4.2.2 Depositional Dust Results

As explained in Section 3.2.1, the depositional dust results for Clapham Yard for the reporting period (47 mg/m<sup>2</sup>/day) were a magnitude of 2.5x below the CG goal (120 mg/m<sup>2</sup>/day).

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

## 3.3 Water Quality

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

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



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

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

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

### 3.3.1 Rainfall Records

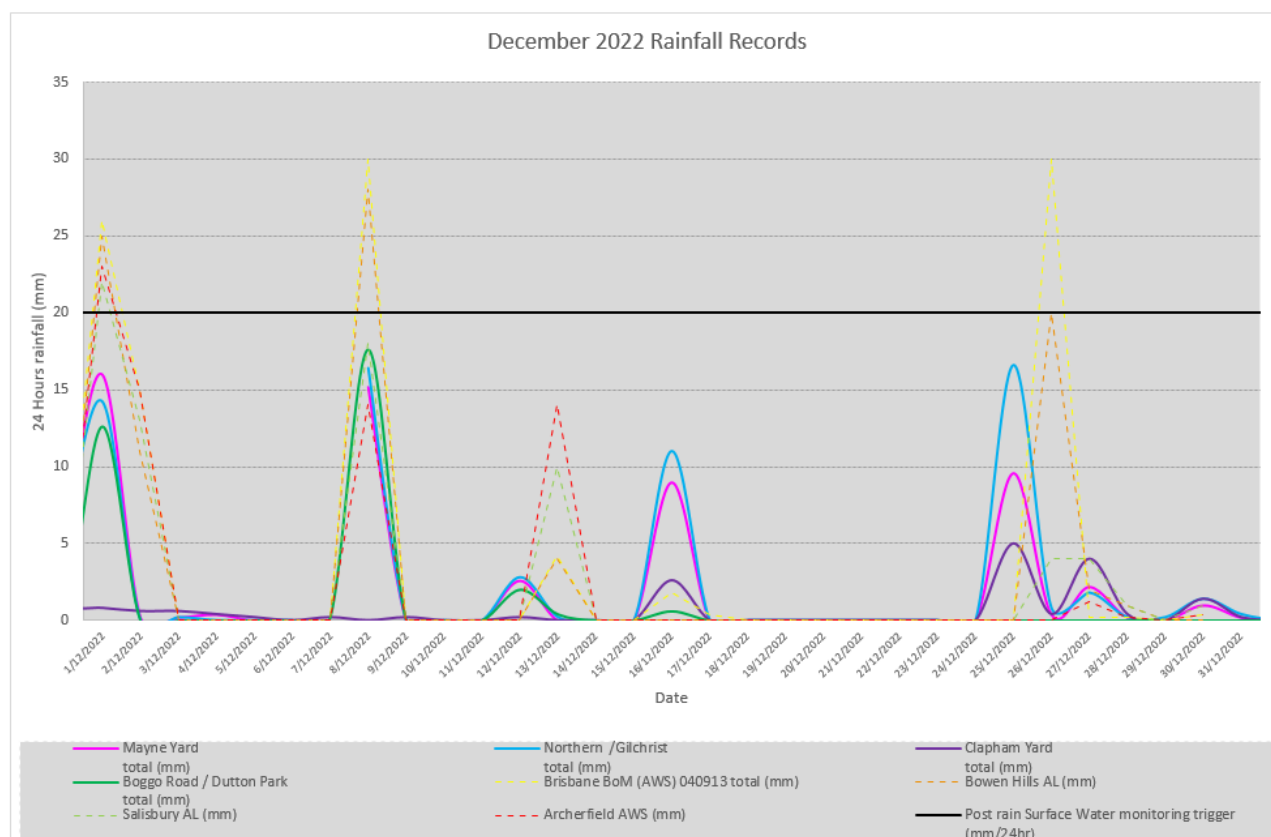


Figure 6: December 2022 Rainfall Records

### 3.3.2 Post Rainfall Monitoring Results

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

Post rainfall monitoring was triggered as per Condition 15(b) and Condition 18.

Table 10 Post rainfall monitoring results

Date	Location	Waterway	Tide	Discharge Criteria <sup>2</sup>				TSS Delta
				Turbidity (NTU) Nil until Turbidity / TSS correlation achieved <sup>3</sup>	TSS (mg/L) <50	DO (%) Nil	pH (pH Unit) Stable pH reading; and General sites: 6.5 – 8.5, or Wallum/Acidic Ecosystems: 5.0 – 7.0	change of 5mg/L or 10% increase (whichever is the greatest)
08/12/22	SW-5 (Upstream)	Moolabin Creek	N/A	Field: 21.5 Lab: 21.1	13	92	7.5	Yes Refer to section 3.3.2.1 <b>Error!</b> <b>Reference source not found.</b> for details
08/12/22	SW-6 (Midstream)	Moolabin Creek	N/A	Field: 48.9 Lab: 52.8	37	90	7.1	
08/12/22	SW-6a (Downstream)	Moolabin Creek	N/A	Field: 63.8 Lab: 79.3	85	82	6.86	
08/12/22	SW-7a (Upstream)	Rocky Water Holes Creek	N/A	N/A – visual monitoring only	Not tested	Not tested	Not tested	Not tested – visual monitoring only
08/12/22	SW-7 (Midstream)	Rocky Water Holes Creek	N/A	N/A – visual monitoring only	Not tested	Not tested	Not tested	
08/12/22	SW-8 (Downstream)	Rocky Water Holes Creek	N/A	N/A – visual monitoring only	Not tested	Not tested	Not tested	

### 3.3.2.1 Moolabin Creek Post Rainfall Monitoring Results Interpretation

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

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

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

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

The assessment included the review of the following factors:

- Rainfall size (below or above the design criteria for the erosion and sediment control measures)
- Existence of an ESC-P designed by suitably qualified person consistent with the Guidelines for Best Practice Erosion and Sediment Control (IECA 2008) as per Imposed Condition 18.
- Status of the erosion and sediment control measures that is:
- ESC measures were installed and maintained as per the ESC-P or the relevant action plan from routine surveillance; and




<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.

- If the rain event was below the design criteria, the ESC measures had not been damaged by the rain event.
- Presence of external sources of sedimentation in the immediate vicinity of the Project Works, and
- Evidence that, where site run-off had been generated by the rainfall, site run-off had entered surface water bodies without going through an ESC measure, and
- Previous rainfall resulting in increased run-off potential, and
- Flow conditions of the creek (e.g. were flood warnings issued).

The below table details the assessment for the monitoring event that identified or presumed impacts to water quality.

Table 11 Post rainfall monitoring results investigation

Date	Location	Event size	Event above Design Criteria	ESC-P designed and regularly maintained by Suitably Qualified Person	ESC measures were installed and maintained to the appropriate standard	ESC measures damaged by the rain event	Evidence of site run off had entered the surface water bodies	Site run off had entered the surface water bodies without going through ESC measures	Presence of external sources of sediment ation	Previous rainfall resulting in increased run-off potential	Flood alert issued	Discernible downstream impact solely attributable to Project Works releases
08 December 2022	Clapham Yard  Moolabin Creek	Microbursts between 4EY and 3EY	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No Refer below
SW- 5 – Upstream					SW-6 – Midstream				SW-6a – Downstream			
												



There is evidence that vegetation clearing completed by Brisbane City Council (BCC) and a private landowner adjacent to Moolabin Creek, have significantly contributed to the increased sedimentation within the waterway.

BCC clearing was observed on 24 October 2022 during post rainfall monitoring (refer to Figure 5). The creek bank has not re-established since the clearing event (refer to Figure 6), and this would have contributed to increased sedimentation upstream of UNITY Works.

Significant clearing and earthworks by a private landowner (The Brisbane Golf Club) (refer to Figure 7) has also contributed to increased sedimentation downstream of UNITY Works.

Therefore, whilst run-off from a UNITY worksite travelled through ESC measures and entered the creek; the rainfall event was above design for the ESC and external influences also contributed to the decreased water quality.

Therefore, compliance with Imposed Conditions 15 and 18 were met.



*Figure 5 24 October 2022 BCC Clearing at SW-5*





Figure 6 8 December SW-5 Creek Bank Had Not Re-Established



Figure 7 Post Rainfall Monitoring and External Influences Locations

### 3.3.2.2 Qualitative Monitoring

Visual monitoring was undertaken for Rocky Water Holes Creek at multiple locations up and downstream of UNITY worksites. A site inspection at Rocklea Station was also completed to determine if any off-site discharges had occurred.

This was done in place of quantitative monitoring as there was evidence Brisbane City Council had recently undertaken vegetation removal within the creek (refer to excavator track mark in Figure 8). Therefore, UNITY would not be able to determine if our worksites had solely attributed to any water quality changes within the creek. The inspection at Rocklea Station confirmed no discharges had occurred during or after the rainfall event.





*Figure 8 Excavator Track Mark from Recent BCC Clearing*



### 3.3.3 Routine Surface Water Monitoring Results

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

A review of the data sample has identified that over 12 months of continuous data collection has occurred with over 20 monitoring events. The frequency of background monitoring has therefore been reduced to bi-annually, with the dry season monitoring completed in June 2022.

Wet season (September to March) monitoring will be required to occur prior to March 2023.

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

### 3.3.4 Groundwater Discharge Monitoring Results

Groundwater discharge monitoring was not triggered during the reporting period.

### 3.3.5 Surface Water Discharge Monitoring

Surface water discharge monitoring was triggered during the reporting period.

Table 12 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
Thursday 01 December 2022	Normanby	Discharging to stormwater, ultimately discharging to Breakfast Creek	8.2 NTU	N/A	86.8% pre discharge	7.33
Monday 05 December 2022	RNA	Discharging to stormwater, ultimately discharging to Breakfast Creek	14.1 NTU	N/A	131% pre discharge	7.98

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

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

## 4 Compliance Review

### 4.1 Non-Compliance Events

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

#### 4.1.1 Non - Compliance Events Summary

Table 13 Summary of Non-Compliance Events

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

### 4.2 C-EMP Compliance

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

Table 14 C-EMP and relevant Subplans monitoring requirements – Compliance Status for the reporting period

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Air Quality	Visual monitoring program + Additional particulate monitoring as required based on the outcomes of the predictive assessment/risk profile	Moderate to High	Yes – visual monitoring is undertaken as part of routine inspections. Monitoring for TSP, PM <sub>10</sub> , and deposited dust was also undertaken TSP, PM <sub>10</sub> monitoring was carried out for three active Worksites	Compliant  Compliant  Compliant	Not Applicable
Air Quality	Complaint's response	Moderate to High	Yes – visual monitoring undertaken during inspection	Compliant	Not Applicable
Noise	Buffer distance tests based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – monitoring completed for SCAS Works	Compliant	Not Applicable
Noise	Plant noise audits for noisy plant to validate models input as required	Moderate to High	No	N/A	Not Applicable
Noise	Complaint's response	Moderate to High	Yes – monitoring completed for station upgrade and December SCAS Works	Compliant	Not Applicable
Vibration	Construction Monitoring at Sensitive Places / DAPs - Model verification based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – monitoring triggered for RNA Stage 2 Works	Compliant	Not Applicable
Vibration	Complaint's response	Moderate to High	Not triggered No complaints	N/A	Not Applicable

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Water Quality	Bi-Annual monitoring	N/A	Wet season monitoring completed in January 2022 Dry Season monitoring completed in June 2022	Compliant	Not Applicable
Water Quality	Post Rainfall	Moderate to High	Yes – one monitoring event (7 locations) undertaken 08 December 2022 Visual monitoring only for four (4) locations	Compliant	Not Applicable
Water Quality	Dewatering	Moderate to High	Yes – two discharge events during reporting period	Compliant	Not Applicable

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

## Attachment 2   Monitoring Locations – Noise and Vibration



Figure 9 6 December 2022 Monitoring





Figure 10 24 December 2022 Monitoring





Figure 11 24 December 2022 Monitoring

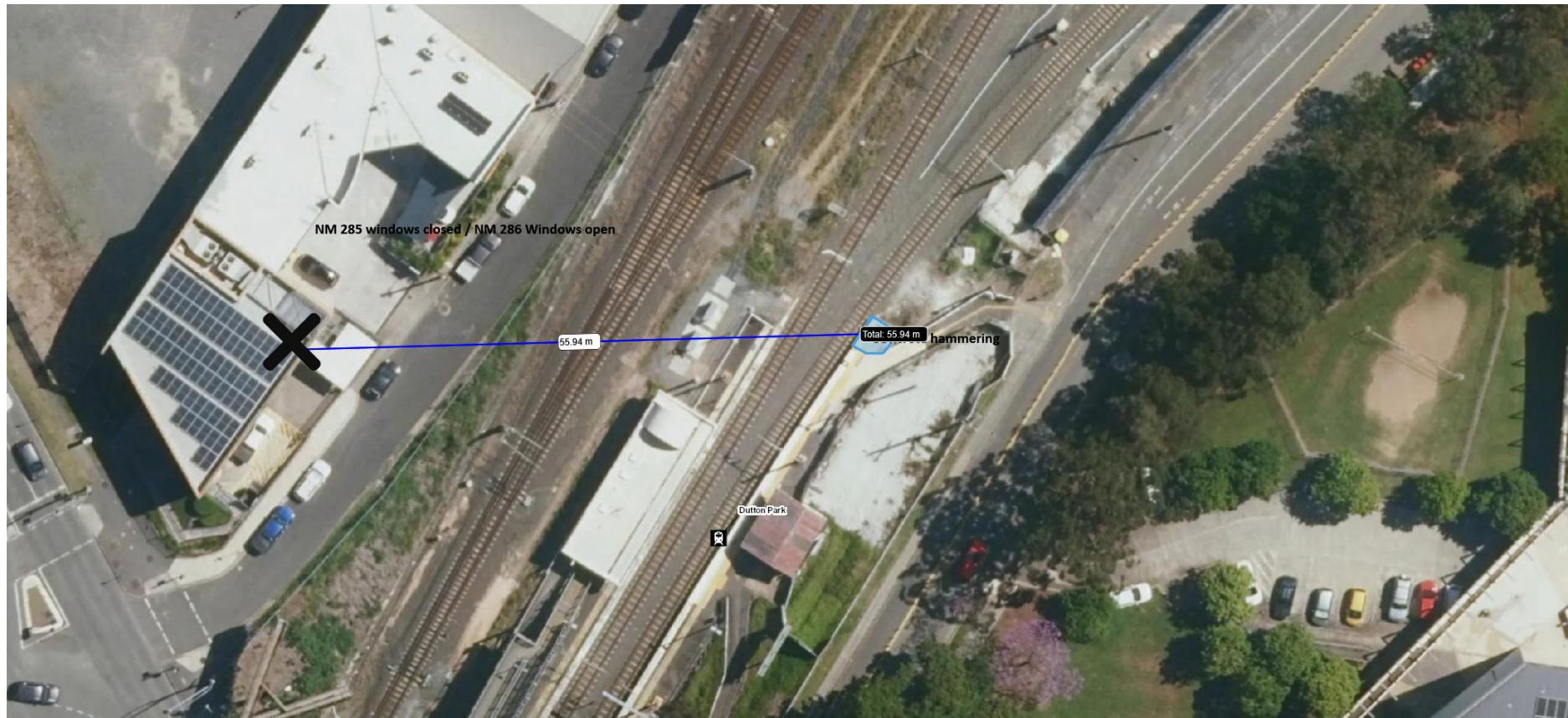


Figure 12 26 December 2022 Monitoring



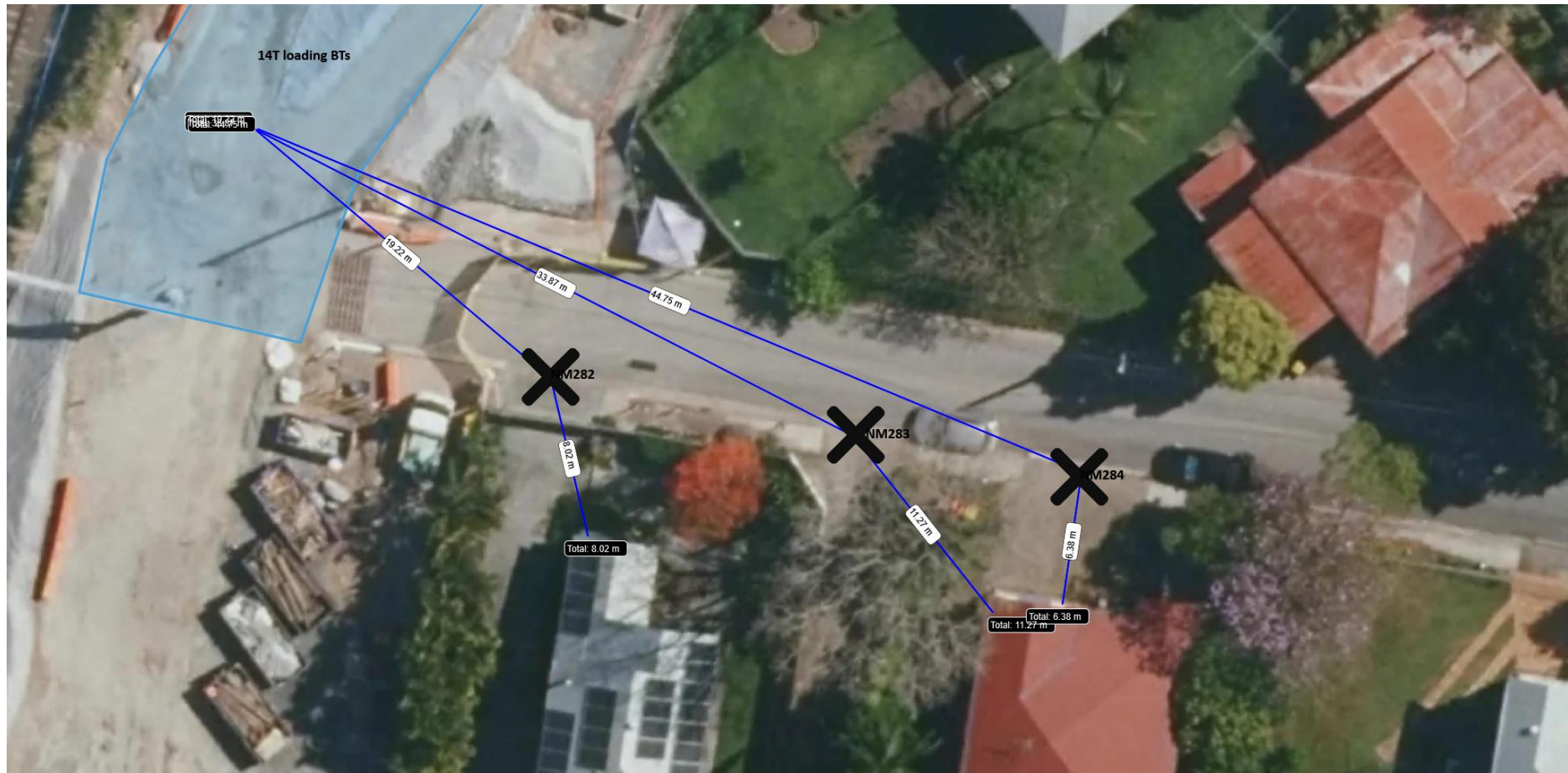


Figure 13 26 December 2022 Monitoring

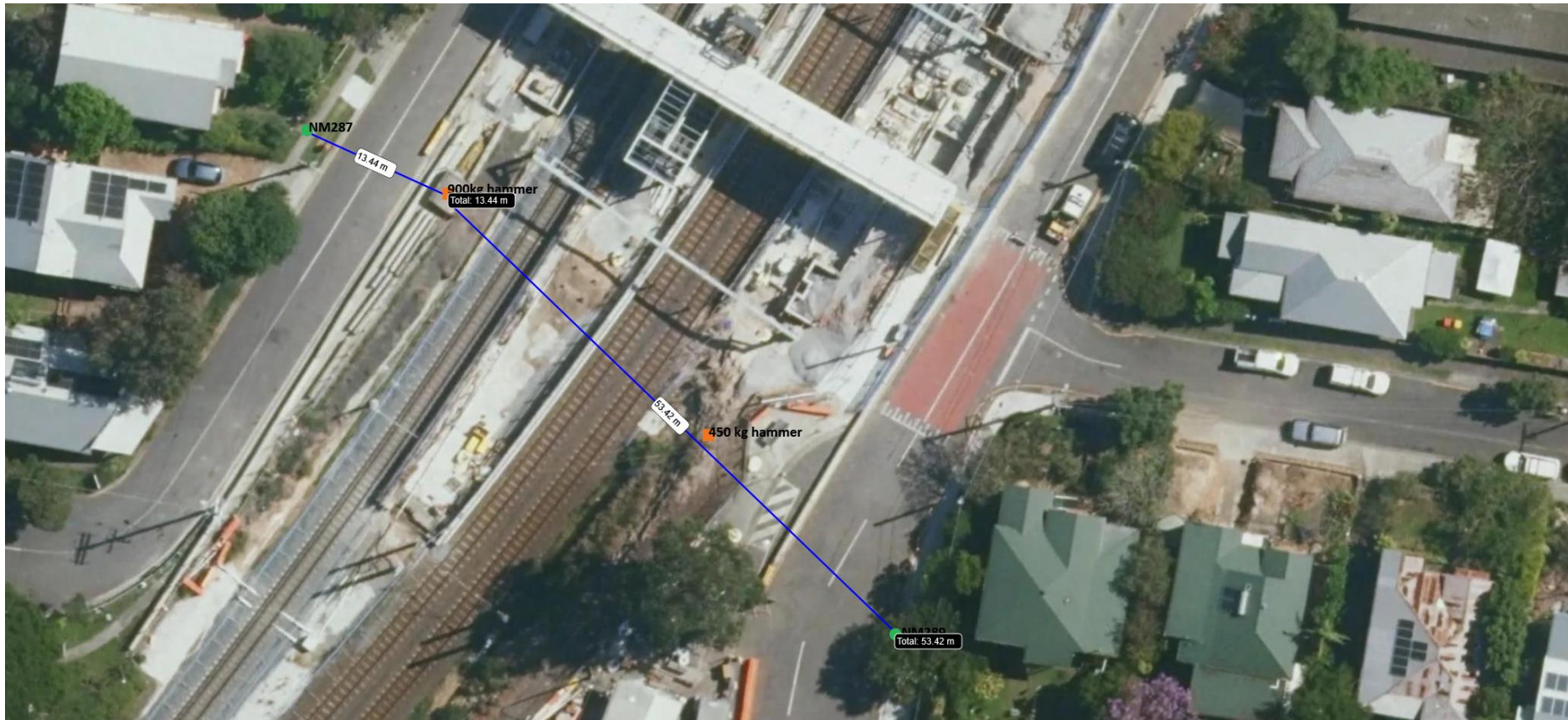


Figure 14 27 December 2022 Monitoring





Figure 15 27 December 2022 Monitoring



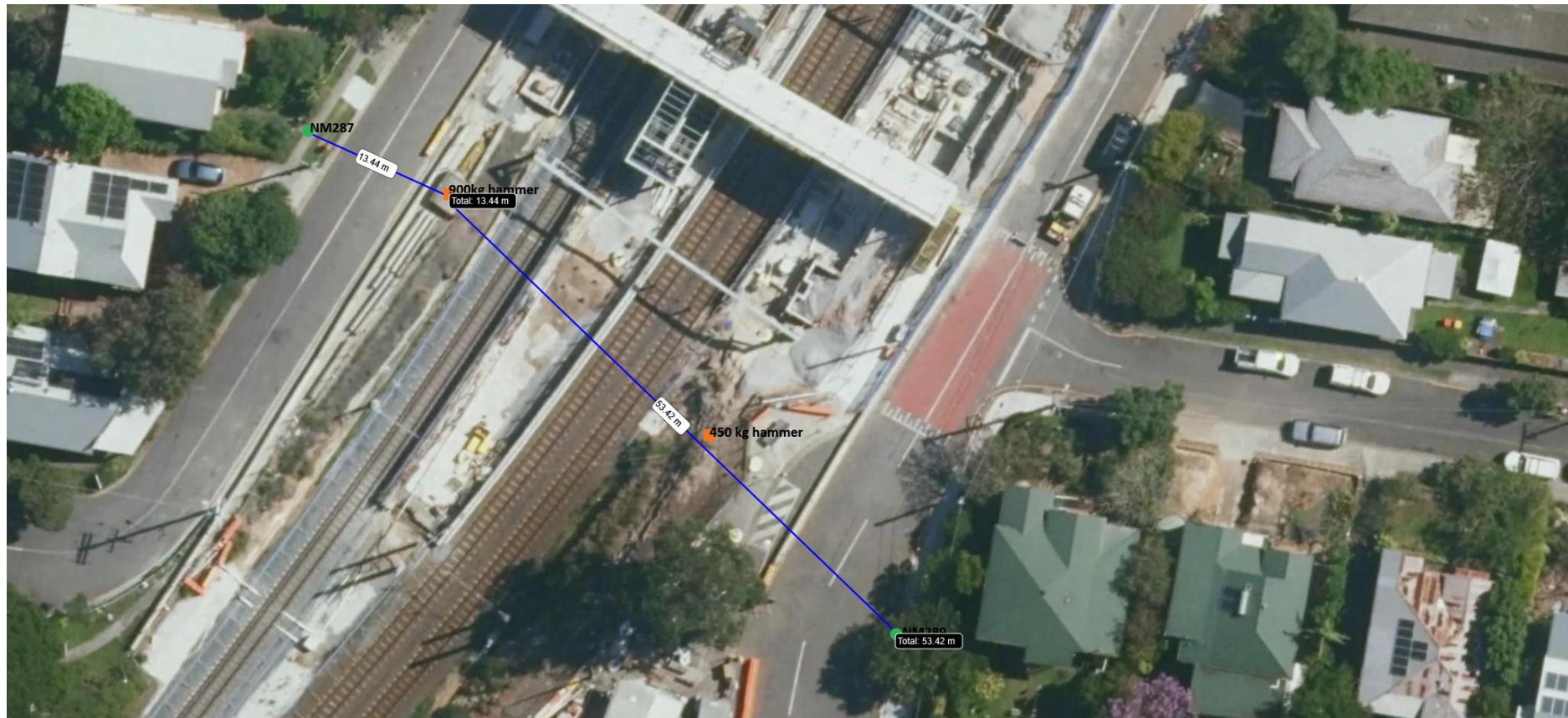


Figure 16 27 December 2022 Monitoring

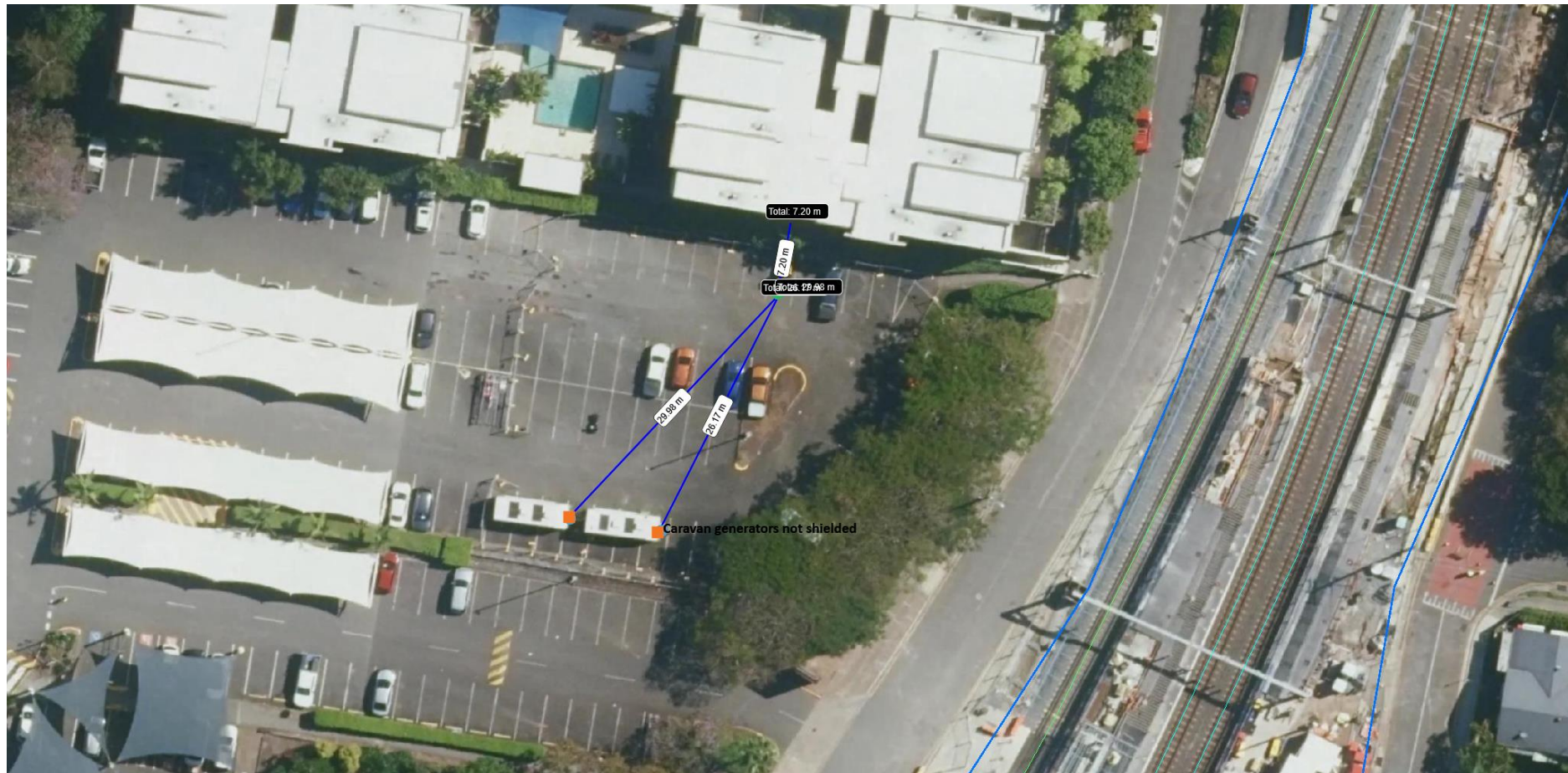


Figure 17 28 December 2022 Monitoring





Figure 18 28 December 2022 Monitoring

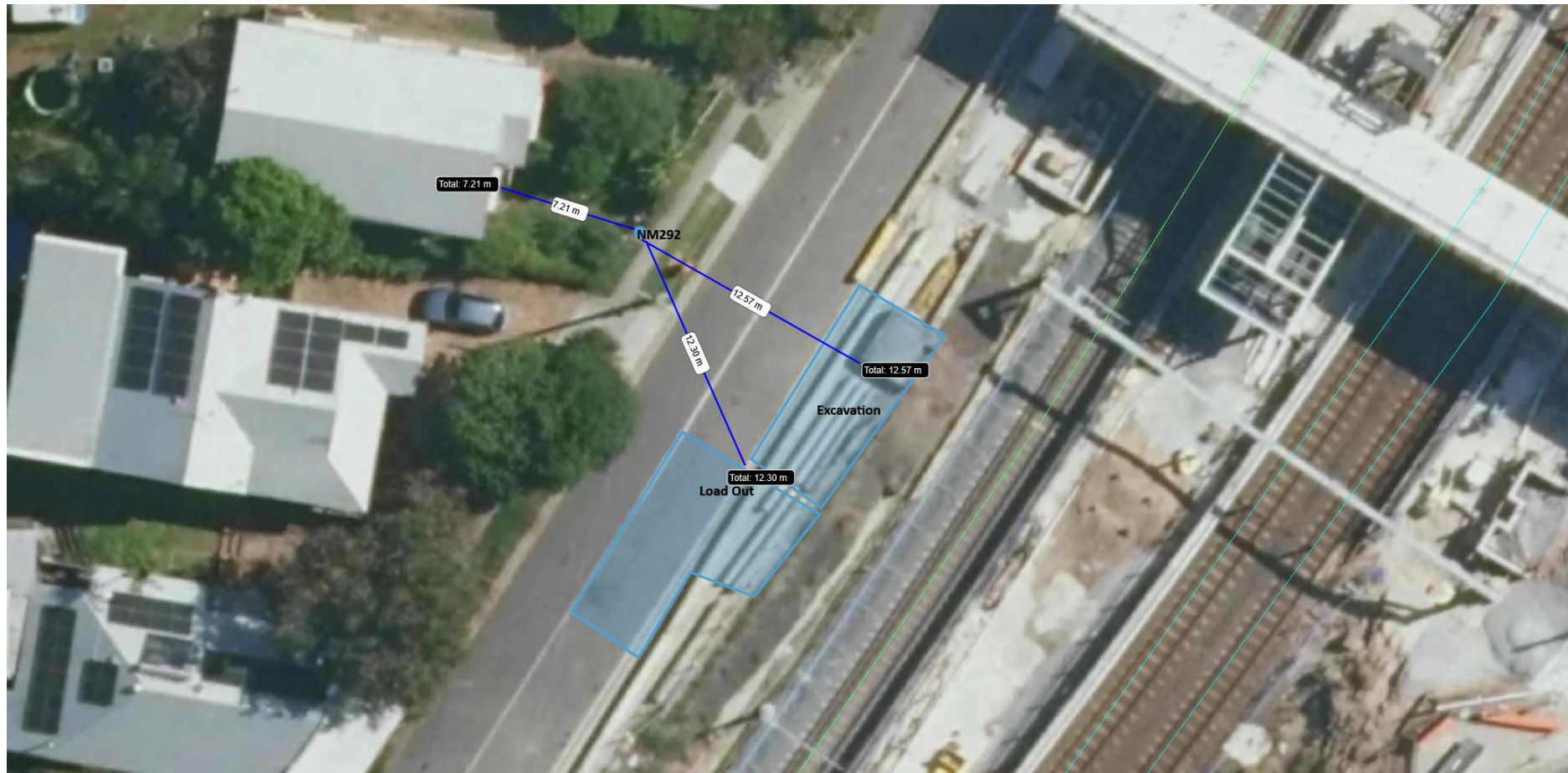


Figure 19 29 December 2022 Monitoring



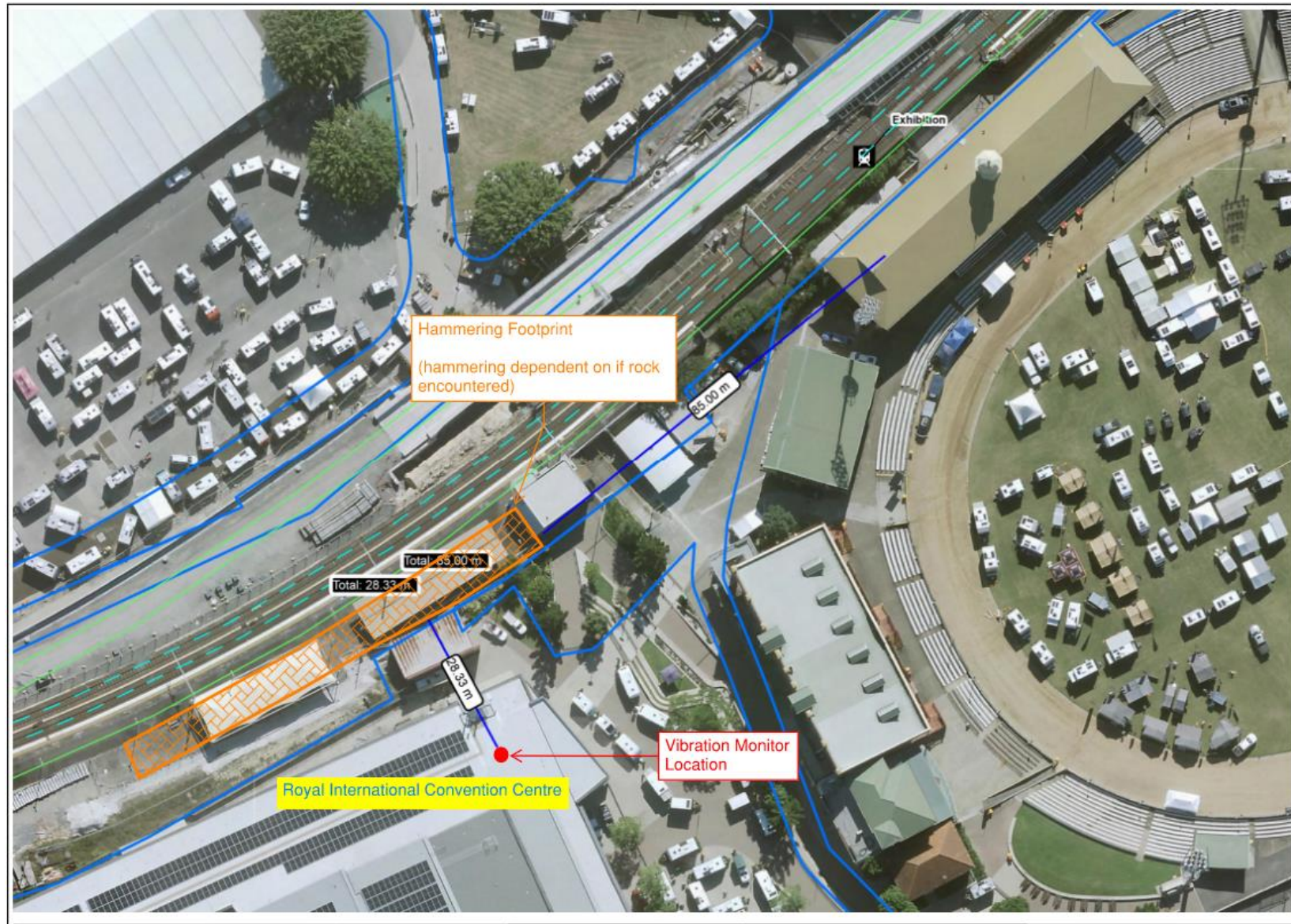
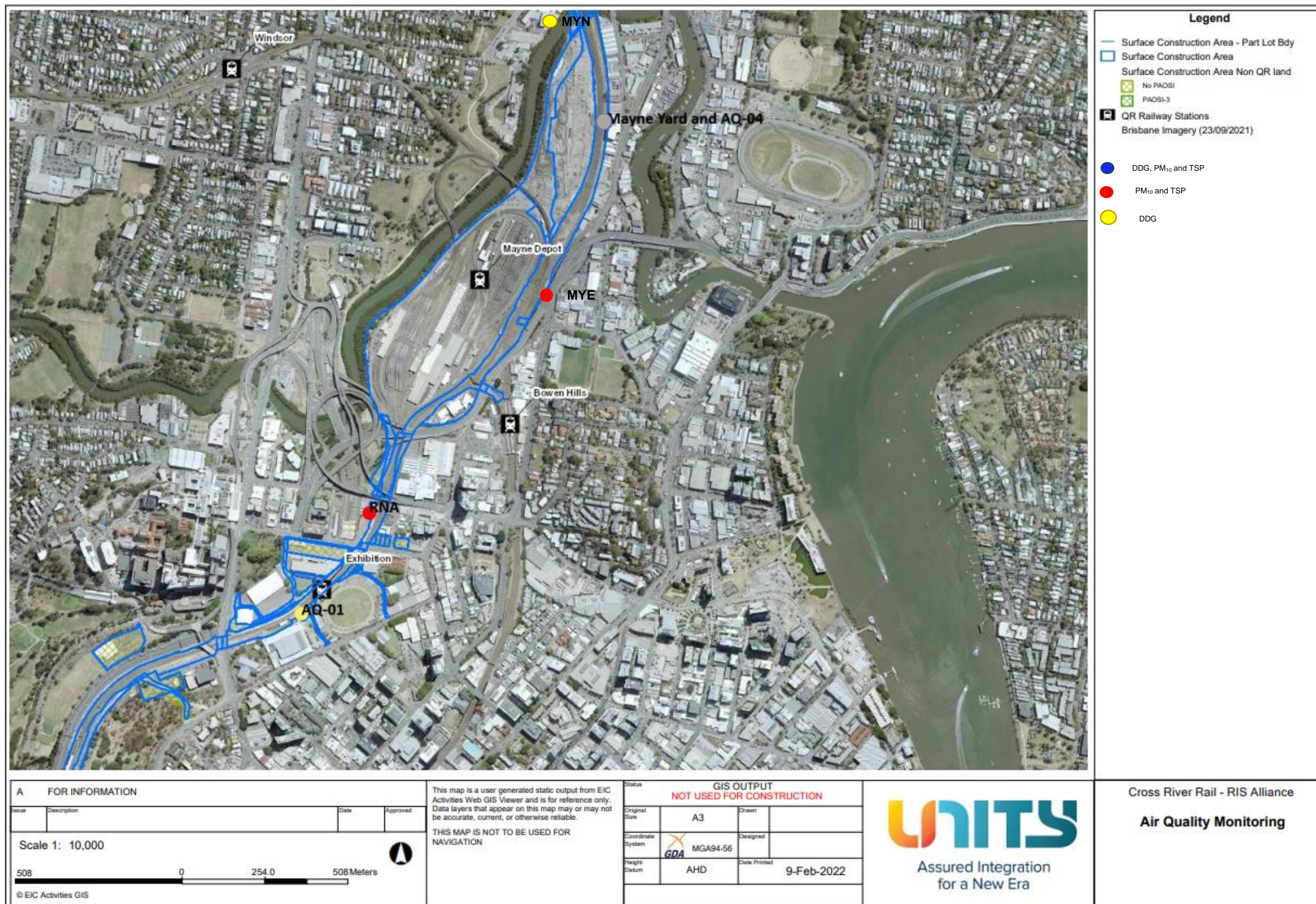


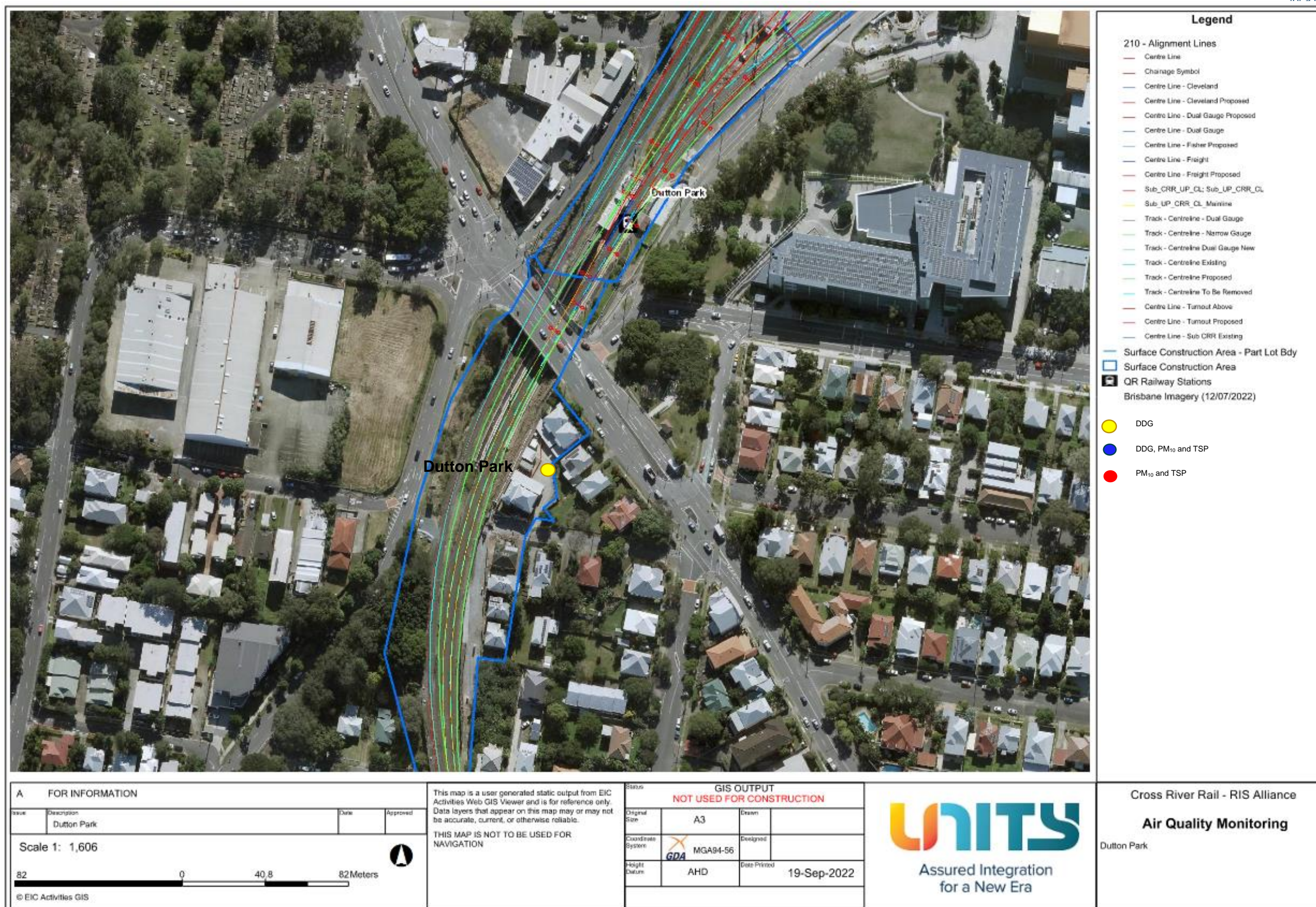
Figure 20 RNA December 2022 Vibration Monitoring

## Attachment 3    Monitoring Locations – Air Quality

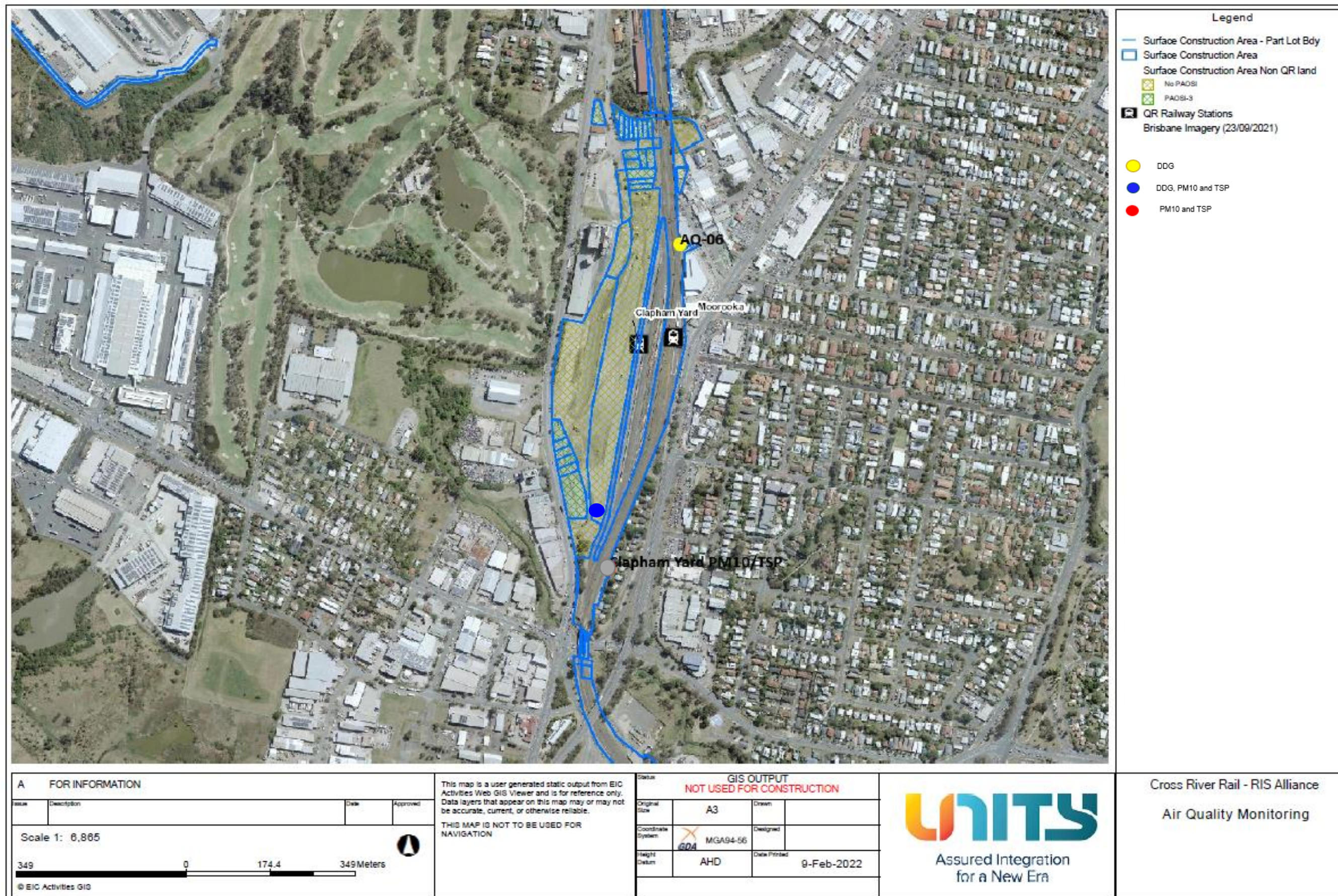








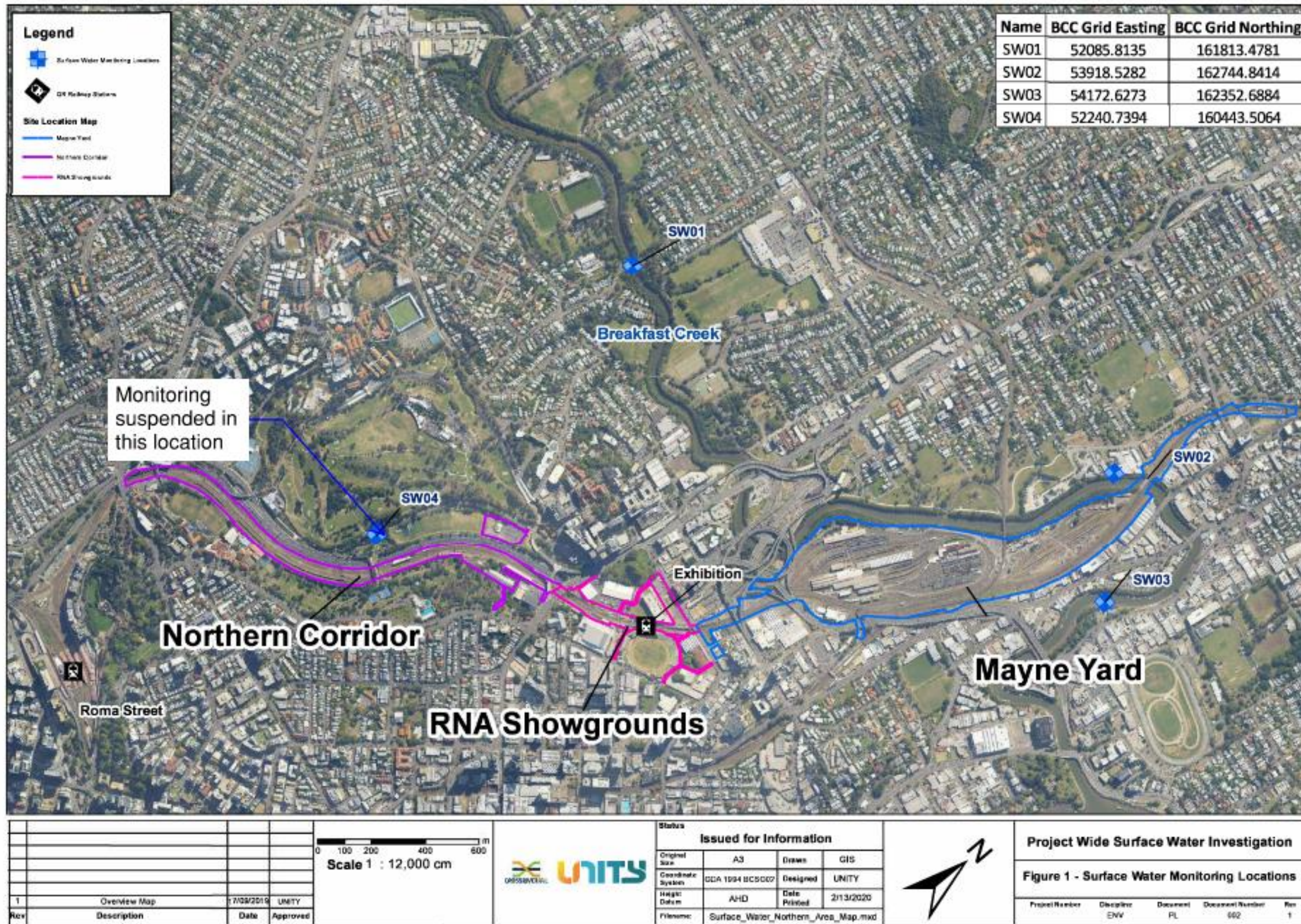




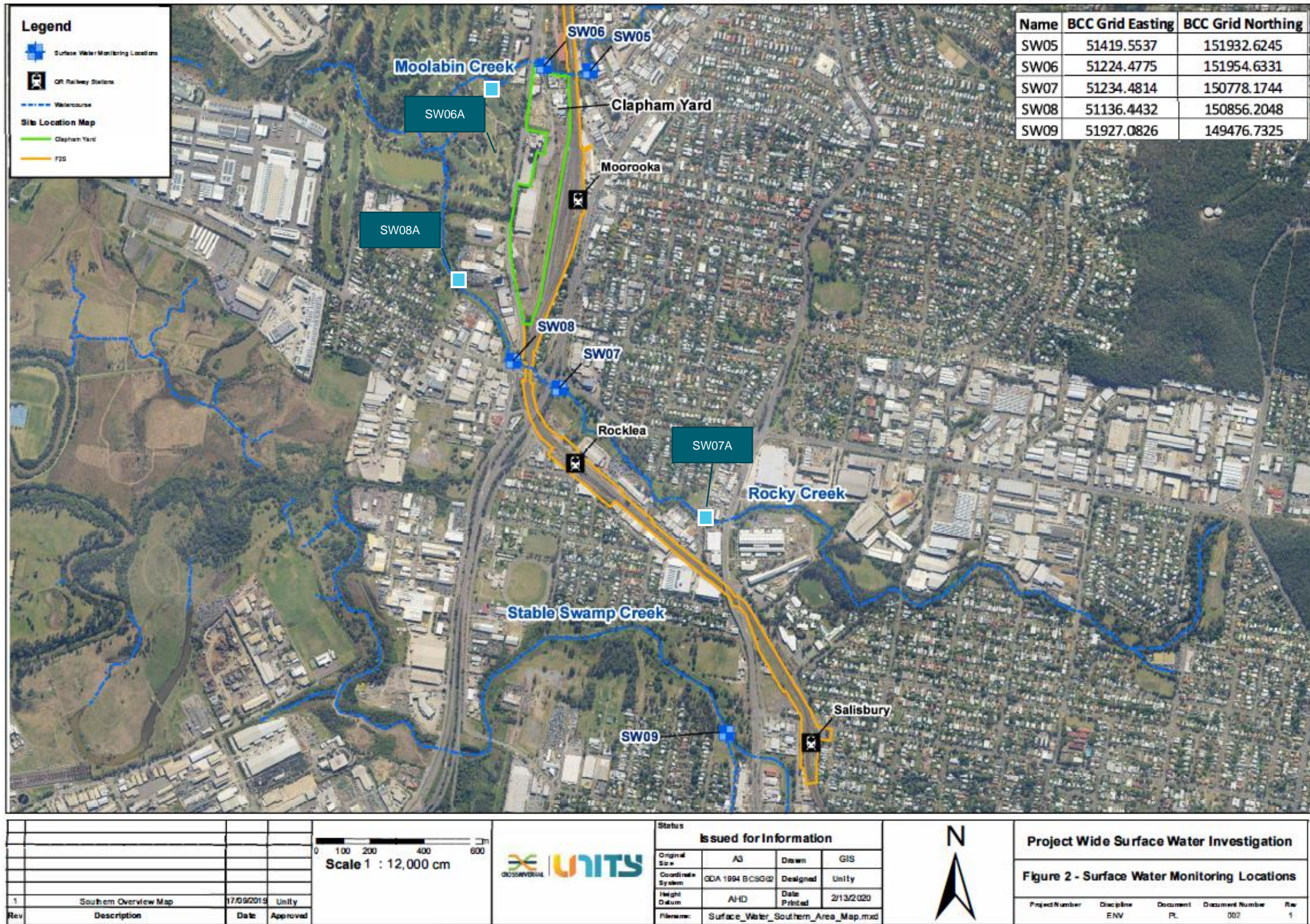


## Attachment 4    Monitoring Locations – Surface Water











# Appendix B TSD Monthly Report

## COORDINATOR-GENERAL'S MONTHLY REPORT: DECEMBER 2022

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.

Noise monitoring was conducted on seven (7) occasions during December 2022. Nil vibration monitoring was required during the month of December 2022. Each noise 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 December 2022. Air quality monitoring confirmed works adhered to project requirements.

Water quality monitoring was conducted before the release of water from the site on twenty-six (26) occasions. Each monitoring event confirmed project requirements were adhered to. Two (2) rounds of surface water quality monitoring were conducted; the monitoring events confirmed no impacts were generated by the Project and include data not reported during the November 2022 report.

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

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

Table 1: Compliance Status – CG Imposed Conditions

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



CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
11.	<b>Noise</b> – Work must aim to achieve internal noise goals for human health and well-being.	Yes	CBGU project work has aimed to achieve internal noise goals for human health and well-being. Where internal noise levels have been unable to be measured, suitable noise reductions have been applied in accordance with Imposed Condition 11. Noise monitoring data is provided within Section 3.2.
	<b>Vibration</b> – Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	Yes	CBGU project work has aimed to achieve vibration goals for cosmetic damage, human comfort and sensitive buildings. Vibration monitoring data is provided within Section 3.1.
12.	<b>Property damage</b> relating to ground movement	Yes	The management of potential impacts relating to property damage has been completed in accordance with Imposed Condition 12.
13.	<b>Air quality</b> – Works must aim to achieve air quality goals for human health and nuisance.	Yes	CBGU project works have aimed to achieve air quality goals. Air quality monitoring data is provided within Section 3.3.
14.	<b>Traffic and transport</b> – Works must minimise adverse impacts on road safety and traffic flow.	Yes	CBGU project works have been conducted in a manner that has minimised adverse impacts on road safety and traffic flow.
15.	<b>Water quality</b> – Works must not discharge surface water and groundwater from the construction site above the relevant environmental values and water quality objectives.	Yes	CBGU has prepared and manages processes to ensure water quality is managed in accordance with Imposed Condition 15.
16.	<b>Water resources</b> – evaluate potential impact, plan works, implement controls and monitor the inflow of groundwater associated with drawdown.	Yes	CBGU project works are managed in accordance with Imposed Condition 16.
17.	<b>Surface water</b> – Must be designed to avoid inundation from stormwater due to a 2-year (6hr) ARI rainfall event and flood waters due to a 5-year ARI rainfall event and constructed to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.	Yes	Design of the CBGU project works considers the requirements of Imposed Condition 17.
18.	<b>Erosion and sediment control</b> – Provisions for erosion and sediment control must be consistent with the Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52.	Yes	CBGU has prepared and manages processes to ensure erosion & sediment control is managed in accordance with Imposed Condition 18.

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

### 3. Environmental Monitoring Results

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

#### 3.1 Vibration

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

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

During December there were no new (vibration-generating) construction activities or changes in construction methodologies. As such, no vibration monitoring was performed.

*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)
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Nil

### 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 exist that these goals may not be achieved.

Noise monitoring was conducted on seven (7) occasions during December 2022. 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.	8/12/2022	7:30:00 PM	Peter Doherty Street (Southern Portal)	Construction Monitoring at Sensitive Places	External	Piling works	Construction	59	62.6	52	60.9	Yes
2.	12/12/2022	7:58:00 PM	Roma Street (Roma Street Precinct)	Model Verification	External	Utilities investigation	Construction	62	72.3	52	70.3	Yes
3.	13/12/2022	10:41:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Demobilisation works	Road Traffic	72	68.2	62	65.3	Yes
4.	13/12/2022	11:06:00 AM	Stanley Street (Woolloongabba Precinct)	Model Verification	External	Demobilisation works	Road Traffic	72	67.8	62	64.6	Yes
5.	15/12/2022	8:02:00 PM	Reid Street (Woolloongabba Precinct)	Model Verification	External	Demolition works	Construction and Road Traffic	57	59.5	47	57.1	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.	15/12/2022	8:33:00 PM	Lahey Lane (Woolloongabba Precinct)	Model Verification	External	Demolition works	Construction and Road Traffic	57	58.1	47	56.2	Yes
7.	20/12/2022	9:15:00 AM	Roma Street (Roma Street Precinct)	Construction Monitoring at Sensitive Places	External	Demolition works	Construction	67	73.3	57	70.5	Yes

- [1] Intermittent noise goal (LA10)

- [2] Continuous noise goal (LAeq)

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

### 3.3 Air Quality

#### 3.3.1 Deposited Dust Results

Air quality requirements (levels) are defined as goals within Imposed Condition 13. The goals are to be aimed for. The Coordinator-General Change Report acknowledges instances that exist that these goals may not be achieved. Dust deposition monitoring was performed in December 2022. The dust deposition gauges result for the reporting period are detailed below, and all monitoring data adhered to project requirements.

Table 4.2: Air Quality Monitoring – Deposited Dust Data

Location	Project Wide Air Quality Goals <sup>[1]</sup>			Monitoring results (mg/m <sup>2</sup> /day)	Comments
	Criterion	Air Quality Indicator	Goal (mg/m <sup>2</sup> /day)		
Northern Portal	Nuisance	Deposited dust	120	86.21	Air quality monitoring was performed during the reporting period. All results adhered to project requirements.
Roma Street Precinct				25.00	
Albert Street Precinct (North)				55.17	
Albert Street Precinct (South)				41.38	
Woolloongabba Precinct (North)				45.16	
Woolloongabba Precinct (South)				64.52	
Boggo Road Precinct (North)				48.39	
Boggo Road Precinct (South)				61.29	
Southern Portal (South)				– <sup>[1]</sup>	
Southern Portal (East)				41.94	

- [1] The Southern Portal (South) Dust Deposition Gauge was damaged during sampling. As such, no results are available to be reported.



### 3.3.2 Particulates and Ambient Air Quality Results

Total Suspended Particles (TSP) and particulate matter less than 10µm (PM10) monitoring were conducted during December 2022.

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 December 2022. Three (3) Government air quality stations near the Construction Precincts are also utilised.

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

Date	TSP Project Goal <sup>[1]</sup>	PM10 Project Goal	Woolloongabba		Albert		Boggo Road		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
			(µg/m <sup>3</sup> /24 hr)							
01-Dec-22	80	50	4.96	4.86	10.78	10.72	2.12	2.12	7.55	7.51
02-Dec-22	80	50	4.42	4.29	14.44	14.34	2.08	2.07	5.55	5.48
03-Dec-22	80	50	7.37	7.28	16.41	16.33	3.89	3.89	8.96	8.91
04-Dec-22	80	50	4.26	4.19	10.79	10.76	2.51	2.51	5.66	5.64
05-Dec-22	80	50	7.34	7.11	11.54	11.48	4.08	4.07	8.62	8.55
06-Dec-22	80	50	11.07	10.77	17.10	13.87	7.19	7.17	10.68	10.59
07-Dec-22	80	50	19.71	19.32	22.94	18.26	12.19	12.16	17.54	17.44
08-Dec-22	80	50	13.26	13.03	17.65	13.88	8.73	8.71	11.73	11.64
09-Dec-22	80	50	11.76	11.60	29.46	22.35	6.49	6.47	11.87	11.81
10-Dec-22	80	50	9.01	8.91	22.37	18.12	4.91	4.89	9.44	9.39
11-Dec-22	80	50	8.62	8.53	11.39	10.45	4.79	4.78	8.41	8.38
12-Dec-22	80	50	13.07	12.89	17.23	14.58	6.83	6.79	11.98	11.93
13-Dec-22	80	50	13.07	12.89	24.90	19.62	7.28	7.29	11.76	11.69
14-Dec-22	80	50	12.20	11.99	30.49	22.55	6.76	6.74	13.00	12.89
15-Dec-22	80	50	13.89	13.46	23.93	16.60	5.41	5.38	8.89	8.80
16-Dec-22	80	50	9.65	9.37	17.08	13.52	4.97	4.97	7.93	7.86
17-Dec-22	80	50	9.25	9.14	12.01	10.56	4.39	4.35	7.72	7.69
18-Dec-22	80	50	9.19	8.97	8.60	7.66	3.48	3.45	5.66	5.63

Date	TSP Project Goal <sup>[1]</sup>	PM10 Project Goal	Woolloongabba		Albert		Boggo Road		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
			(µg/m <sup>3</sup> /24 hr)							
19-Dec-22	80	50	6.66	6.49	15.78	12.08	3.94	3.92	6.36	6.31
20-Dec-22	80	50	6.80	6.64	19.79	15.80	5.22	5.20	9.59	9.57
21-Dec-22	80	50	9.62	9.46	16.72	12.77	3.28	3.26	6.43	6.41
22-Dec-22	80	50	10.15	9.98	10.94	8.82	3.21	3.20	5.59	5.58
23-Dec-22	80	50	6.39	6.19	8.16	6.50	2.81	2.78	4.12	4.09
24-Dec-22	80	50	10.15	10.02	8.05	6.98	7.95	7.93	8.83	8.80
25-Dec-22	80	50	11.15	11.03	7.46	6.76	9.19	9.18	11.57	11.55
26-Dec-22	80	50	5.59	5.53	8.12	7.41	3.83	3.74	5.31	5.30
27-Dec-22	80	50	6.71	6.64	9.39	8.75	4.02	4.01	6.46	6.43
28-Dec-22	80	50	7.58	7.50	9.36	8.56	4.73	4.72	6.94	6.92
29-Dec-22	80	50	11.18	11.07	12.62	11.58	6.67	6.67	12.23	12.21
30-Dec-22	80	50	8.57	8.51	8.93	8.35	5.15	5.14	9.08	9.08
31-Dec-22	80	50	12.68	12.62	14.53	13.92	6.89	6.88	13.26	13.25

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

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

- Brisbane CBD: PM10 daily Maximum average: **31 µg/m<sup>3</sup>/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=cbd&parameter=18&date=1/12/2022&timeframe=month>)
- South Brisbane: PM10 daily Maximum average: **34.3 µg/m<sup>3</sup>/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=sbr&parameter=18&date=1/12/2022&timeframe=month>)
- Woolloongabba: PM10 daily Maximum average: **45.9 µg/m<sup>3</sup>/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=woo&parameter=18&date=1/12/2022&timeframe=month>).

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

# Particle PM<sub>10</sub> at Brisbane CBD, 1–31 December 2022 [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).

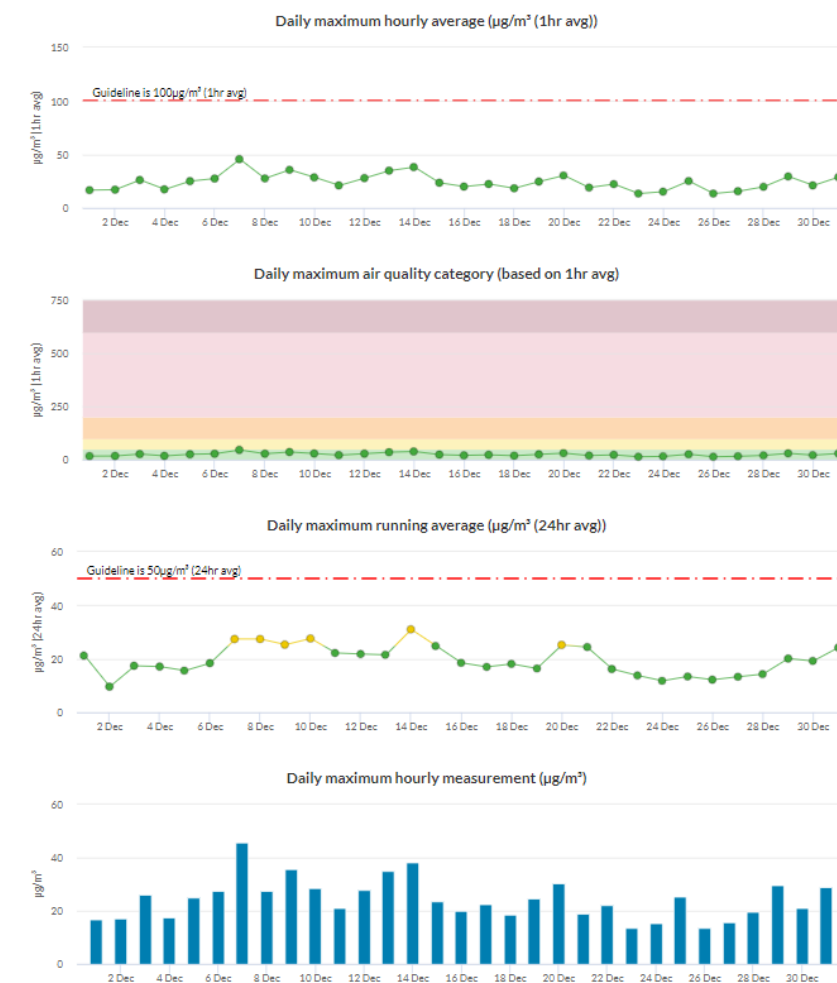


Figure 1: Brisbane CBD – DES Station - PM10 graph for December 2022 (reproduction from the DES website).

# Particle PM<sub>10</sub> at South Brisbane, 1–31 December 2022 [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).

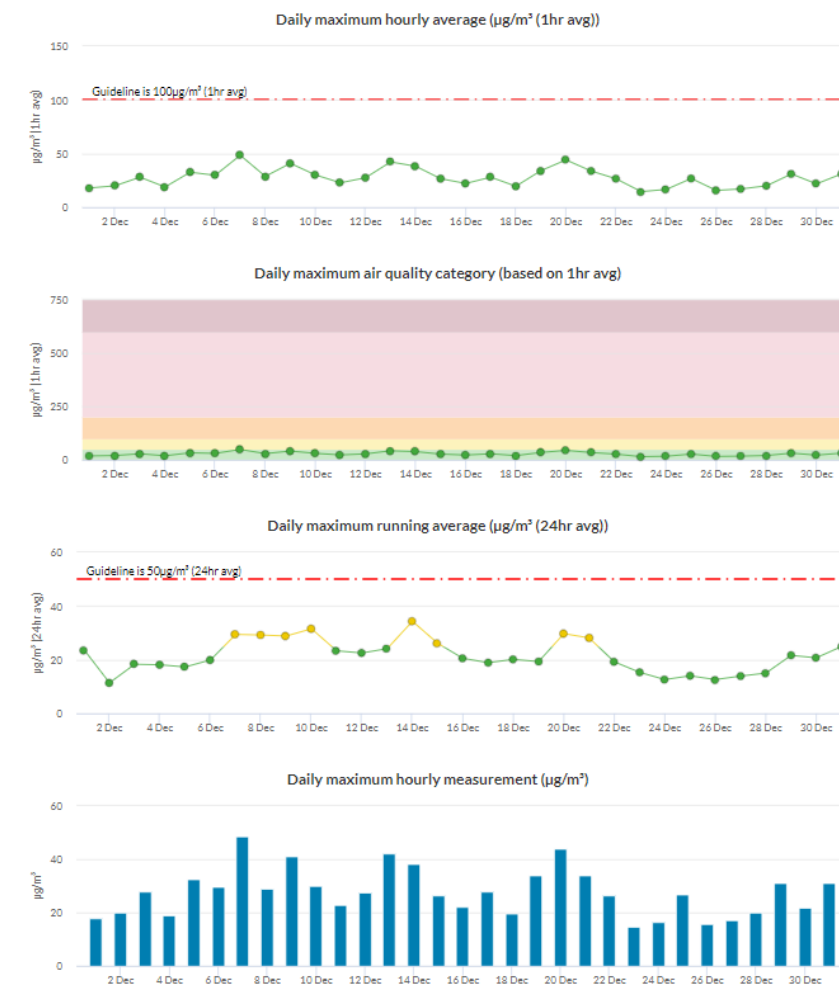


Figure 2: South Brisbane – DES Station - PM10 graph for December 2022 (reproduction from the DES website).



### Particle PM<sub>10</sub> at Woolloongabba, 1–31 December 2022 [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).

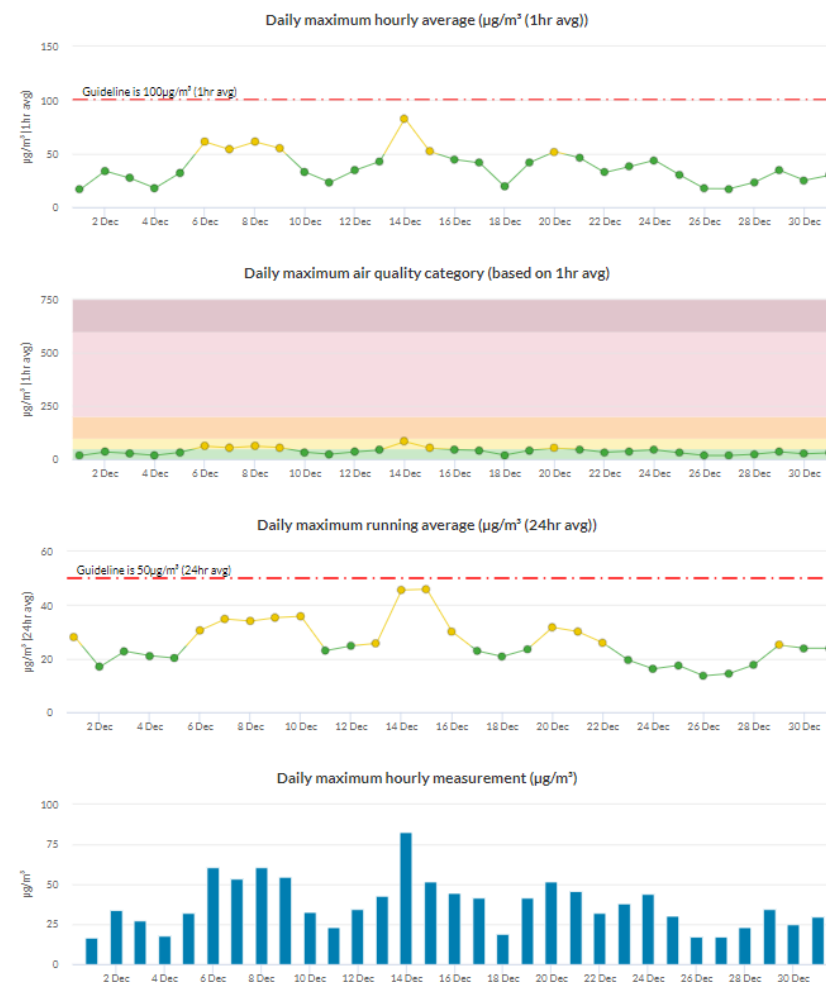


Figure 3: Woolloongabba – DES Station - PM10 graph for December 2022 (reproduction from the DES website).

### 3.4 Water Quality – Discharge

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

#### 3.4.1 Groundwater Discharge

Water quality monitoring data is provided in the table below.

Table 6: Groundwater Discharge – Water Quality Monitoring Data

Location	Date	Testing of Water Quality Objectives <sup>[1]</sup>											Adhered to Project Requirements (Yes / No)
		pH	Suspended solids (mg/L)	Turbidity (NTU)	Ammonia N (µg/L) <sup>[3]</sup>	Oxidised N (µg/L) <sup>[3]</sup>	Organic N (µg/L) <sup>[3]</sup>	Total nitrogen (µg/L) <sup>[4]</sup>	Total phosphorus (µg/L)	Filterable Reactive phosphorus (FRP) (µg/L)	Chlorophyll a (µg/L)	Dissolved oxygen (%) <sup>[2]</sup>	
Roma Street	08/12/2022	7.36	<5	0.50	50	460	600	1200	150	<10	<1	91.95	Yes
Woolloongabba	12/12/2022	7.99	<5	2.57	30	790	300	1100	20	<10	<1	84.03	Yes
Albert Street	13/12/2022	7.90	<5	1.10	530	130	1700	2600	60	<10	<1	84.72	Yes
Boggo Road	15/12/2022	8.18	<5	0.72	<10	1010	400	1400	10	<10	2	101.48	Yes

- [1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. Water quality objectives are defined as goals within the Brisbane River estuary environmental values and water quality objectives document.
- [2] All results adhere to project requirements in that site practices are designed to aim to achieve the water quality objectives. The dissolved oxygen samples were acquired prior to discharge from the site. Pumping of the water will have inadvertently aerated the water, thus influencing the dissolved oxygen level.
- [3] All results adhere to project requirements in that site practices aim to achieve the water quality objectives. These samples identified results generally consistent with pre-construction conditions, and no external influences were introduced by construction activity.
- [4] Total nitrogen levels adhered to project requirements in that site practices are designed to aim to achieve the water quality objectives. The results are mostly below that of the receiving environment. They are also considered abnormal compared to results from previous months, and are influenced by external factors (e.g., high rainfall events, overloaded sewage systems, fertilising natural areas, etc) rather than related to construction activities.
- Note: Testing of EPP (Water) Quality Objectives are analysed at a NATA accredited laboratory each month (results provided above). Field testing (turbidity, pH) is done regularly during ongoing discharge.

### 3.4.2 Poned/Surface Water Discharge

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

Table 7: Surface Water Discharge - Water Quality Monitoring Data

No.	Location	Date	Testing of Water Quality Objectives <sup>[1]</sup>		Adhered to Project Requirements (Yes / No)
			pH	Turbidity (NTU)	
1.	Northern Portal	1/12/2022	8.50	26.88	Yes
2.	Northern Portal	2/12/2022	8.20	22.70	Yes
3.	Northern Portal	5/12/2022	8.10	25.10	Yes
4.	Northern Portal	6/12/2022	8.21	20.70	Yes
5.	Northern Portal	7/12/2022	8.25	4.93	Yes
6.	Northern Portal	8/12/2022	8.28	39.70	Yes
7.	Northern Portal	9/12/2022	8.32	25.60	Yes
8.	Northern Portal	10/12/2022	8.20	17.88	Yes
9.	Northern Portal	12/12/2022	8.27	15.20	Yes
10.	Northern Portal	13/12/2022	8.31	37.10	Yes
11.	Northern Portal	14/12/2022	8.15	10.13	Yes
12.	Northern Portal	15/12/2022	8.13	18.30	Yes
13.	Northern Portal	16/12/2022	8.11	23.10	Yes
14.	Northern Portal	17/12/2022	8.03	7.65	Yes
15.	Northern Portal	19/12/2022	8.23	2.14	Yes

16.	Northern Portal	20/12/2022	8.19	21.30	Yes
17.	Northern Portal	21/12/2022	8.10	3.32	Yes
18.	Northern Portal	22/12/2022	8.17	2.87	Yes
19.	Northern Portal	23/12/2022	8.21	3.50	Yes
20.	Northern Portal	24/12/2022	8.36	4.72	Yes
21.	Northern Portal	26/12/2022	8.39	29.91	Yes
22.	Northern Portal	27/12/2022	8.20	18.08	Yes
23.	Northern Portal	28/12/2022	8.30	6.46	Yes
24.	Northern Portal	29/12/2022	8.12	2.39	Yes
25.	Northern Portal	30/12/2022	8.37	5.11	Yes
26.	Northern Portal	31/12/2022	8.35	11.00	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 December 2022, CBGU JV undertook two (2) rounds of surface water sampling at five (5) site locations (upstream and downstream). A local rain event that occurred on 1<sup>st</sup> December 2022 triggered post-rainfall sampling at two precincts. A rain event that occurred on the 7<sup>th</sup> of December triggered post-rainfall sampling at all precincts.

Post rainfall monitoring data performed at the end of November 2022 has been included in the below table, as the results had not yet been received from the laboratory at the completion of last month's report.

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	28/11/2022	Post Rainfall	3.55	32600	94.15	7.55
Albert Street	Downstream	28/11/2022	Post Rainfall	3.74	32800	101.09	7.63
Woolloongabba	Upstream	28/11/2022	Post Rainfall	5.26	32900	93.35	7.7
Woolloongabba	Downstream	28/11/2022	Post Rainfall	5.64	17400	103.12	7.76
Boggo Road <sup>[1]</sup>	Downstream	28/11/2022	Post Rainfall	24.6	8100	70.98	6.97
Roma Street	Upstream	28/11/2022	Post Rainfall	4.78	30900	84.87	7.91
Roma Street	Downstream	28/11/2022	Post Rainfall	9.71	33100	86.44	8.02
Northern Portal	Upstream	28/11/2022	Post Rainfall	19.25	508	100.39	8.25
Northern Portal	Downstream	28/11/2022	Post Rainfall	43.1	111	72.46	8.17
Albert Street	Upstream	2/12/2022	Post Rainfall	4.46	25700	79.88	7.63

Location	Upstream / Downstream	Date	Purpose of Monitoring	Turbidity (NTU)	EC (µS/cm)	Dissolved oxygen (%)	pH
Albert Street	Downstream	2/12/2022	Post Rainfall	8.78	16500	84.72	7.83
Woolloongabba	Upstream	2/12/2022	Post Rainfall	3.63	28100	81.09	7.65
Woolloongabba	Downstream	2/12/2022	Post Rainfall	3.49	28400	82.3	7.64
Albert Street	Upstream	8/12/2022	Monthly/Post rain	2.82	39200	145.46	8.43
Albert Street	Downstream	8/12/2022	Monthly/Post rain	1.87	39200	145.56	8.46
Woolloongabba	Upstream	8/12/2022	Monthly/Post rain	2.41	37000	152.18	8.48
Woolloongabba	Downstream	8/12/2022	Monthly/Post rain	15.32	25500	129.98	8.5
Boggo Road <sup>[1]</sup>	Downstream	8/12/2022	Monthly/Post rain	90.5	375	86.71	7.33
Roma Street	Upstream	8/12/2022	Monthly/Post rain	1.75	35900	141.31	8.37
Roma Street	Downstream	8/12/2022	Monthly/Post rain	2.99	35800	137.59	8.65
Northern Portal	Upstream	8/12/2022	Monthly/Post rain	47.8	448	82.91	7.89
Northern Portal	Downstream	8/12/2022	Monthly/Post rain	61.7	328	79.11	7.18

- [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 December 2022, 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.	06/12/2022	Pound Street (Southern Area Works)	Traffic Management	A stakeholder contacted the Project regarding street parking. CBGU investigated and informed the workforce, via toolbox talk, about vehicle expectations.	Closed
2.	21/12/2022	Roma Street (Roma Street Precinct)	Noise	A stakeholder contacted the Project regarding noise generated from the Roma Street Worksite. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.  CBGU reviewed the circumstances and monitoring confirmed works adhered to the Project's noise requirements, and the works undertaken were consistent with the community notification.	Closed
3.	20/12/2022	Albert Street (Albert Street)	Traffic Management	A stakeholder contacted the Project regarding carpark access. CBGU investigated and informed the workforce, via toolbox talk, about vehicle expectations.	Closed