QUARTERLY ENVIRONMENTAL MONITORING REPORT- MARCH – JUNE 2025

A2I | Albury to Illabo

CONTRACT NUMBER: 0052

PROJECT DOCUMENT NUMBER:

6-0052-210-EEC-00-RP-1001

Document Control

DOCUMENT TITLE:	Quarterly Environmental Monitoring Report- March – June 2025			
DOCUMENT OWNER:	Chris Standing – Environment, Approvals and Sustainability Manager (A2P)			
PREPARED BY:	Teiya Thornberry	**TITLE:**	Environmental Lead	
SIGNATURE:			**DATE:**	30/10/2025
REVIEWED BY:	David Lamb	**TITLE:**	Environmental Lead	
SIGNATURE:			**DATE:**	30/10/2025

Approved by

NAME	TITLE	SIGNATURE	DATE
Chris Standing	Environmental and Sustainability Manager		30/10/2025

Revision History

REVISION	REVISION DATE	AMENDMENT	DATE TO CLIENT
A	28/07/2025	Issued for review	28/07/2025
B	23/09/2025	Issued for review	23/09/2025
C	02/10/2025	Issued for review	17/10/2025
0	30/10/2025	For Use	30/10/2025

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

GLOSSARY

Specific terms and acronyms used throughout this plan are listed and described in Table 2 below.

TABLE 1: DEFINITIONS

TERM	DEFINITION
A2I	Albury to Illabo
AA	Acoustic Advisor
ARTC	Australian Rail Track Corporation
BCS	Biodiversity, Conservation and Science Group
BoM	Bureau of Meteorology
CBMP	Construction Biodiversity Management Plan
CEMP	Construction Environmental Management Plan
CEMF	Construction Environmental Management Framework
CNVMP	Construction Noise and Vibration Monitoring Program
CNVIS	Construction Noise and Vibration Impact Statement
CoA	Condition of Approval
COD	Chemical Oxygen Demand
CMP	Construction Monitoring Program
CSWMP	Construction Surface Water Monitoring Program
DCCEEW	Department of Climate Change, Energy, the Environment and Water (NSW)
dB	Decibel
DO	Dissolved Oxygen
DPHI	Department of Planning, Housing and Infrastructure
DS	Downstream
EC	Electrical Conductivity
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
EPA	Environment Protection Authority

TERM	DEFINITION
ER	Environmental Representative
HBT	Hollow-Bearing Tree
ICNG	Interim Construction Noise Guideline
IRPL	Inland Rail Pty Ltd
ISO	International Organisation for Standardisation
J2I	Junee to Illabo enhancement site
LGA	Local Government Area
NML	Noise Management Level
NST	No Sample Taken
NOx	Oxidised Nitrogen
OOHW	Out-of-Hours Work
P2N	Parkes to Narromine

COMPLIANCE MATRIX

The below Table 2 outlines this reports compliance with Infrastructure Approval SSI-10055

TABLE 2: COMPLIANCE MATRIX TO ARTC SPECIFICATION

<table>
<tr><th>CONDITION REFERENCE</th><th>CONDITION REQUIREMENT</th><th>REFERENCE</th></tr>
<tr><td>C26</td><td>Except as provided by Condition C16, the following Construction Monitoring Programs must be prepared and implemented in consultation with the relevant government agencies identified for each to compare actual performance of construction of the CSSI against the performance predicted in the documents listed in Condition A1 or in the CEMP:
<table>
<tr><th>Required Construction</th><th>Relevant Government Agencies</th></tr>
<tr><td>Traffic, transport and access</td><td>Relevant councils and Transport for NSW (TfNSW)</td></tr>
<tr><td>Noise and vibration</td><td>Relevant councils</td></tr>
<tr><td>Biodiversity</td><td>BCS (NSW DCCEEW)</td></tr>
<tr><td>Surface water</td><td>DCCEEW Water Group and relevant councils</td></tr>
</table></td><td>This report and associated submission to relevant agencies</td></tr>
<tr><td>C27</td><td>Each Construction Monitoring Program (CMP) must have consideration of SMART principles and provide:
a) details of baseline data available;
b) details of baseline data to be obtained and when;
c) details of all monitoring of the project to be undertaken;</td><td>The CMP's were endorsed as an appendix to their respective CEMP sub-plan and satisfy SMART principles:</td></tr>
</table>

CONDITION REFERENCE	CONDITION REQUIREMENT	REFERENCE
	d) the parameters of the project to be monitored; e) the frequency of monitoring to be undertaken; f) the location and justification of monitoring locations; g) the reporting of monitoring results and analysis results against relevant criteria; h) details of the methods that will be used to analyse the monitoring data; i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicate unacceptable project impacts; and j) any consultation to be undertaken in relation to the monitoring programs.	Construction Biodiversity Management Plan - Stage B: Appendix G - Monitoring Program (Doc No: 6-0052-210-PES-00-PJ-0007) Construction Soil and Water Management Plan (CSWMP) - Stage B: Appendix B - Construction Surface Water Quality Monitoring Program - Stage B (Doc No: 6-0052-210-PES-00-PJ-0005) Construction Noise and Vibration Management Plan - Stage B: Appendix B - Construction Noise and Vibration Monitoring Program (Doc No: 6-0052-210-PMA-00-PL-0013)
C28	The Noise and Vibration Monitoring Program must be prepared in accordance with the requirements of Approved Methods for the Measurement and Analysis of Environmental Noise (EPA).	Construction Noise and Vibration Management Plan - Stage A: Appendix A - Construction Noise and Vibration Monitoring Program 6_0052-210-PES-00-PJ-0002 Construction Noise and Vibration Management Plan - Stage B: Appendix B - Construction Noise and Vibration Monitoring Program (Doc No: 6-0052-210-PMA-00-PL-0013)
C29	CMP(s) must be submitted to the Planning Secretary for approval except those permitted to be endorsed by others pursuant to a CEMF approved by the Planning Secretary under Condition C16.	The CMP's were submitted to the Planning Secretary and approved as an appendix to their respective CEMP sub-plan prior to the commencement of construction.
C30	Where a CMP requires Planning Secretary's approval, the CMP must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month before the commencement of	As above

CONDITION REFERENCE	CONDITION REQUIREMENT	REFERENCE
	construction, or where construction is staged, no later than one (1) month before the commencement of each stage.	
C31	CMP(s) not requiring the Planning Secretary's approval, but requiring ER endorsement, must be submitted to the ER no later than one (1) month before the commencement of construction or where construction is staged no later than one (1) month before the commencement of that stage. The CMP(s) must be endorsed by the ER as being consistent with the conditions of this approval and all undertakings made in the documents listed in Condition A1.	As above
C33	The CMP(s), as approved or endorsed (as relevant), including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater.	As above
C34	The results of the CMP(s) must be submitted to the Planning Secretary, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant CMP.	This report

1 INTRODUCTION

1.1 Project Overview

Inland Rail is an approximate 1,600 kilometres (km) freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales (NSW) and Queensland. The Inland Rail route would involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 local government areas (LGAs). Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the economy. Inland Rail will enhance our national freight and supply chain capabilities, connecting existing freight routes through rail, roads and ports, and supporting Australian's growth. Inland Rail is being delivered by Australian Rail Track Corporation (ARTC) and Inland Rail Pty Ltd (IRPL).

Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail. Each of these projects can be delivered and operated independently with tie-in points to the existing railway. Work south of Parkes has been prioritised, which will enable Inland Rail to initially connect to existing rail networks between Melbourne, Sydney, Perth and Adelaide via Parkes and Narromine. The Parkes to Narromine (P2N) and Narrabri to North Star Phase 1 (N2NS P1) sections are complete.

The project will enable enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway in the Albury to Illabo (A2I) section of the Inland Rail program (refer to Figure 1). Enhancement works are required to provide the increased vertical and horizontal clearances required for double-stacked freight trains. Works would include track realignment, lowering and/or modification within the existing rail corridor, modification, removal or replacement of bridge structures (rail, road and/or pedestrian bridges), raising or replacing signal gantries, level-crossing modifications and other associated works

1.2 Environmental Protection Licence and Reporting Requirements

Martinus Rail Pty Ltd obtained the Environment Protection Licence (EPL No. 21984) from the NSW Environment Protection Authority for the purpose of constructing the project. This licence authorises the carrying out of scheduled activities listed in the licence at premises located between Albury and Illabo. The following report details environmental monitoring undertaken during this reporting month conducted in accordance with the EPL.

The EPL can be found by following the link below to the EPA's website: Environment & Heritage | POEO Licences, Application and Notice Detail.

1.3 Submission Requirements and Distribution

In accordance with Condition **C34**, this Construction Monitoring Report (i.e. Quarterly Environmental Monitoring Report) will be submitted to the Planning secretary and following agencies for information at the frequency identified in the Construction Monitoring Program, which is on a quarterly basis and within 60 days of the period's conclusion:

- NSW Environment Protection Authority (EPA)
- Relevant Councils: Albury City Council, Wagga Wagga City Council, Junee Shire Council, Lockhart Shire Council, and Greater Hume Shire Council
- NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) – including the Water Group and Conservation Programs, Heritage and Regulation (CPHR) (formerly known as Biodiversity, Conservation and Science Group (BCS)).

The Environmental Representative (ER) and Acoustic Advisor (AA) will review and endorse the report as required by Condition **A22(d) and A27(e) respectively,** prior to submission to the Planning Secretary, Department of Planning, Housing and Infrastructure (DPHI).

1.4 Reporting Period

This Quarterly Environmental Monitoring Report has been prepared to address the Condition of Approval (CoA) **C34** of the planning approval SSI-10055. The report presents monitoring data for the reporting period for all works undertaken on the Albury to Illabo (A2I) portion of Inland Rail from **01st March 2025 to 30th June 2025**, representing the first Quarterly report submitted under **C34**.

Construction as defined by the Planning Approval only commenced on the project in late March. To reflect this and assist in the future development and timing of these monitoring reports, the period of this first monitoring report has been adjusted to include additional monitoring undertaken in the lead up to construction commencement and align with the quarterly calendar.

This report presents monitoring results from the Stage A construction along the Albury to Illabo alignment and compares the results against established baseline data where available.

In accordance with each Construction Monitoring Program, this Quarterly Environmental Monitoring Report will be submitted to the Planning Secretary and to relevant regulatory agencies (i.e. the EPA) for information 60 days after the reporting period ends.

FIGURE 1: SITE OVERVIEW

2 METHODOLOGY

2.1 Noise and Vibration

2.1.1 Noise

Noise monitoring throughout the reporting period has been conducted in accordance with the procedures outlined in the Construction Noise and Vibration Monitoring Program (CNVMP). Monitoring is conducted as required for out-of-hours work (OOHW), possessions, CNVIS validation, and complaint verification (if triggered), as well as ad hoc spot checks in response to potentially noise intensive plant or at the request of the Acoustic Advisor (AA). Monitoring activities were undertaken to generally satisfy the requirements of:

- Conditions of Approval (CoA): **C27**, **C28**, and **C34**
- Environment Protection Licence (EPL) No. 21984
- NSW EPA Approved Methods for the Measurement and Analysis of Environmental Noise (2022)
- Interim Construction Noise Guideline (ICNG, DECC 2009)

All monitoring was conducted by personnel deemed competent under Section 2.2 of the EPA Approved Methods, using equipment compliant with AS/NZS IEC 61672.1:2019 and AS 1055:2018. Monitoring locations were selected in accordance with the relevant enhancement site CNVIS, ICNG guidance, at the most noise-affected boundary within 30 metres of the residence, and at a height of 1.5 metres above ground level. Where access to private property was not granted, indicative monitoring was conducted at representative locations, with records of access requests maintained.

During this monitoring period, Martinus utilised the following noise monitoring devices:

TABLE 3: NOISE MONITORING EQUIPMENT

MANUFACTURER	MODEL	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE	LOCATION USED
RION	NL- 42	00509260	03/09/2025	03/09/2026	Project-wide
SiteHive	-	HEX-000723	24/10/2024	24/10/2026	Edmondson Compound
SiteHive	-	HEX-000241	05/12/2023	05/12/2025	Illabo Compound

Calibration certificates are provided in **Appendix D**.

Table 4 details the specific noise monitoring activities undertaken during this quarter, aligning with the requirements set out in Table 12 of the CNVMP.

TABLE 4: CNVMP NOISE MONITORING PARAMETERS

MONITORING REQUIREMENT	FREQUENCY	EVIDENCE OF COMPLIANCE
Attended monitoring will be carried out at the commencement of activities for which a CNVIS has been prepared to confirm actual noise levels.	On the first occasion of activities for which a CNVIS has been prepared	Noise register and attended monitoring field sheets
Attended monitoring where a complaint is received.	When a noise complaint is received and it is determined that the results of the process will assist in resolving the issue, or where this is identified as necessary to confirm mitigation measures are suitable	No noise complaints were received during this reporting period
Attended monitoring will be carried out at the request of AA	At the request of AA, or (at a minimum) on the first occasion of	Noise register and attended monitoring field sheets

or where predicted levels exceed the NML by: • >15dB for OOHWP1 • >5dB OOHWP2	activities for which a CNVIS has identified exceedances of the NML as listed	
Attended Validation monitoring	At least the first night of out of hours work where work is being undertaken in accordance with a community agreement	Noise register and attended monitoring field sheets
Spot checks of noise intensive plant	At the commencement of noise intensive plant activities	Noise register and attended field sheets
Where required for the purposes of refining construction methods or techniques to reduce noise levels	When trialling/refining construction methodologies or mitigation measures targeted at the reduction in sound power level of a specific noise source	Not applicable to this reporting period

2.1.2 Vibration

Vibration monitoring conducted during this reporting period was done generally in accordance with the CNVMP. Monitoring was undertaken to generally satisfy the requirements of:

- Conditions of Approval (CoA) C26, C27, and C34,
- EPA's 'Assessing Vibration: a technical guideline' (DEC, 2006).

Vibration monitoring is conducted in response to activities that have the potential to generate vibration within the minimum working distances specified in section 6.3 of the CNVMP, and in proximity to heritage items, as required by CoA E80. No activities with the potential to generate vibration within the minimum working distances were undertaken during the reporting period. A full summary of vibration monitoring activities can be found in Table 6.

Across the A2I project, Martinus utilise “SiteHive” Hexanode Vibration Monitoring to assess vibration impacts. The Hexanode device is calibrated in accordance with ISO/IEC 16063-21:2003 standards. Calibration certificates are provided in **Appendix D**.

TABLE 5 - VIBRATION MONITORING EQUIPMENT

MANUFACTURER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE	LOCATION USED	DATE USED
SiteHive	VIB-000097	06/03/2024	06/03/2026	Illabo Rest Area	22/03/2025 – 25/03/2025
SiteHive	VIB-000097	06/03/2024	06/03/2026	Marinna Silos	4/05/2025 – 5/05/2025

TABLE 6: CNVMP VIBRATION MONITORING PARAMETERS

MONITORING PARAMETER	FREQUENCY	EVIDENCE OF COMPLIANCE
Vibratory works conducted within minimum working distances of sensitive receivers (cosmetic damage and human comfort)	At the commencement of vibratory works	Not yet triggered in this reporting period
When a complaint is received in relation to human exposure to vibration levels	As required or when monitoring is considered an appropriate response	Not yet triggered in this reporting period

and/or suspected property damage due to vibration impacts.		
For the purposes of refining construction methodology to reduce vibration levels	As required	Attended Vibration monitoring
Vibration generating activities that have the potential to impact on heritage items in accordance with CoA E80	Any time vibration generating activities are occurring in proximity to heritage items.	Not yet triggered in this reporting period

2.2 Surface Water

Surface water monitoring conducted throughout the monitoring period was undertaken in accordance with the Surface Water Monitoring Program. As per section 3 of the program, nine points along the A2I alignment were monitored both monthly, as well in response to rain events that exceeded 25mm in 24hrs within the quarterly reporting period.

Surface water quality monitoring was performed at upstream (US) and downstream (DS) sites using a Horiba multiparameter for physio-chemical parameters, as well as the collection of water sample suits which were sent to a NATA accredited laboratory for analysis. The parameters analysed have been summarised below in Table 7.

During the monitoring period several sites could not be sampled due to the absence of any/running water. Typically, in the case of sampling locations that maintained ponded or stagnant water, no sample was taken as it would not have been reflective of the water body nor aligned with the intent of the Surface Water Monitoring Program.

Table 7 details the analytes that were monitored during the construction phase of the Project.

TABLE 7: SURFACE WATER QUALITY MONITORING PARAMETERS

CATEGORY	PARAMETERS
Physio-chemical parameters (field)	- Turbidity (NTU); - pH; - Dissolved oxygen (DO%); - Salinity/ Electrical Conductivity (EC); - Temperature (^{o}C).
Laboratory analysis	- Chlorophyll-a; - Nutrients (total phosphorus and total nitrogen); - Total Suspended Solids (TSS); - Total metals (Aluminium, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel and zinc); - Total Kjeldahl Nitrogen (TKN); - Nitrogen NOx (oxidised nitrogen); - Organic compounds (BTEX, naphthalene, and TRH); - Total Recoverable Hydrocarbons (TRH C6-C9, TRH C10-C36); - Chemical Oxygen Demand (COD); - Biochemical Oxygen Demand (BOD).

2.3 Biodiversity

Biodiversity monitoring conducted throughout the monitoring period was carried out in line with the project Construction Biodiversity Management Plan (CBMP). The monitoring aims to assess actual biodiversity impacts against predicted outcomes and ensure compliance with relevant CoA.

Monitoring activities outlined in this report were designed to:

- Validate predicted impacts to biodiversity.
- Ensure compliance with vegetation clearing limits.
- Assess effectiveness of mitigation measures.

- Inform biodiversity offset requirements (if required).

Biodiversity monitoring on A2I is conducted utilising several metrics. For the purpose of this report, specific reference will be made to the performance of outcomes as described in CoA **E20**.

3 RESULTS

3.1 Noise and vibration

3.1.1 Noise

3.1.1.1 Attended Noise Monitoring

Attended noise monitoring was undertaken during the March and May 2025 rail possessions at Site 20 J2I, which were the periods of highest noise impact. Tailored monitoring programs were developed for each possession, aligned with the specific scope of works. Monitoring was carried out at sensitive receiver locations as per the J2I CNVIS (6-0052-210-EEC-J7-AS-0002), covering both daytime and nighttime activities.

The acoustic environment was primarily influenced by ambient background noise, including local and highway traffic. All measured noise levels were found to be compliant with the relevant criteria.

All monitoring results showed that the noise levels were generally compliant with the project requirements.

Detailed attended noise monitoring summary for attended noise monitoring event are provided in **Appendix A**.

An example attended noise monitoring summary is provided in **Appendix E**.

Attended noise monitoring undertaken during the reporting period:

- J2I – March 2025 Possession
- J2I – May 2025 Possession

3.1.1.2 Un-attended Noise Monitoring

Daily unattended noise monitoring was conducted using SiteHive Hexanode, with monitors installed at the Edmondson and J2I site compounds. These monitors continuously captured noise levels associated with daily site and construction activities. The primary purpose of the SiteHive Hexanodes is to enable the site team to make real-time decisions and proactively identify and manage noise risks. The acoustic environment was largely influenced by background sources such as local and highway traffic, as well as intermittent train horns and shunting activities.

3.1.2 Vibration

3.1.2.1 Attended Vibration Monitoring

No attended vibration monitoring was completed during this reporting period. During this period only a small cc10 roller was used for track works. All structures are well outside the minimum working distance for a roller of this size. Additionally, the tamper did not operate near the Illabo silos, which are the only structures identified in the CNVIS within the cosmetic damage minimum working distance for tamping.

3.1.2.2 Un-attended Vibration Monitoring

A SiteHive Hexanode Vibration Monitor was used to assess vibration impacts from vibratory rolling and tamping activities during the possession at J2I. Monitoring demonstrated compliance with the requirements.

3.2 Surface Water

Surface water monitoring conducted throughout the monitoring period identified elevated results in several water quality parameters. These results were observed across multiple sampling locations along the alignment, with downstream concentrations of some parameters exceeding upstream values by more than 20%, triggering the management response outlined in the Construction Surface Water Quality Monitoring Program (CSWMP). In the context of this quarterly report, a management response was not necessary as no A2I construction was taking place within the sample points catchment at the time of sampling.

During the reporting period, several sampling sites were consistently dry or stagnant, making them unable to be sampled or unrepresentative of the surface water quality in the subject waterway.

When compared against baseline data from the Environmental Impact Statement (EIS) for the A2I project—particularly Chapter 18: Hydrology, Flooding and Water Quality and Technical Paper 11—the observed exceedances aligned with historical trends and expectations for the region. The EIS identified many of the watercourses within the Murray and

Murrumbidgee catchments as 'ephemeral systems', often subject to low flow conditions, poor ecological health, and naturally elevated concentrations of certain water quality indicators.

Given the absence of construction activities and the consistency of results with pre-existing conditions documented in the EIS, it is reasonable to conclude that the observed deviations in water quality are not attributable to project-related impacts but rather reflect natural variability and legacy environmental conditions within the catchment.

A summary of this quarters surface water results can be found in Table 8 and Table 9below. A detailed monitoring reports and analyses are provided in **Appendix C.**

TABLE 8: SURFACE WATER SITE WHICH WERE NOT SAMPLED

MONITORING EVENT	SITES NOT SAMPLED	REASON
Mar	SW01, SW02, SW03 SW04, SW05, SW06, SW08, SW09	The March surface water sampling was undertaken to demonstrate pre-construction conditions prior to the possession at J2I. Only SW07-SW09 were assessed. (Of which only SW07 had water). No construction works were undertaken at other sites linked to surface water sampling locations.
Apr	SW02, SW04, SW05, SW06, SW08, SW09	All dry or stagnant
May	SW02, SW04, SW05, SW06, SW08, SW09	All dry or stagnant
Jun	SW04 DS, SW05, SW06 US, SW08, SW09	All dry or stagnant

TABLE 9: SURFACE WATER QUALITY EXCEEDANCE SUMMARY

MONITORING EVENT	SITE	PARAMETERS EXCEEDED	DOWNSTREAM > UPSTREAM (>20%)
Mar	SW07	DO, TP, TN, Al, Cr, Cu, Zn, Chlorophyll-a	EC
Apr	SW01	DO, pH, EC, Al	–
	SW03	DO, Chlorophyll-a, TP, TN, Al	Chlorophyll-a, TSS
	SW07	pH, DO, Chlorophyll-a, TP, TN, Al, Cu, Zn	EC, Chlorophyll-a, TP, TSS, TKN, COD, Zn
May	SW01	Turbidity, pH, DO, EC, Chlorophyll-a, Al, Cu, TP	EC, DO, Temp
	SW03	DO, pH, Temp, Chlorophyll-a, TP, TN, Al	DO, EC
	SW07	pH, DO, Temp, Chlorophyll-a, TP, TN, Al, Cu, Zn	EC, Chlorophyll-a, TSS, Al, Cu, Mn, Zn
Jun	SW01	Turbidity, pH, DO, EC, Temp, Chlorophyll-a, Al, TP, TN, Cd	TN, Mn, TKN, NOx, Cd
	SW02	pH, DO, Temp, TP, TN, Al, Cr, Cu, Zn, Pb,	EC, Temp, DO, TP, TSS, Al, Cr, Cu, Fe, Pb, Mn, Ni, NOx

	SW03	Turbidity, pH, DO, Temp, Chlorophyll-a, TP, TN, Al	Turbidity, DO, EC, Temp, Chlorophyll-a, Al
	SW04	Turbidity, pH, DO, EC, Temp, Chlorophyll-a, TP, TN, Al, Cu, Zn	–
	SW06	Turbidity, pH, DO, Temp, Chlorophyll-a, TP, TN, Al, Cr, Cu, Zn	–
	SW07	pH, Temp, Chlorophyll-a, TP, TN, Al, Cr, Cu, Zn, DO	Turbidity, DO, EC, Temp, Chlorophyll-a, TP, TSS, Al, Cr, Cu, Fe, Mn

3.3 Biodiversity

3.3.1 Pre-Clearing/Post-Clearing Assessments

Pre-clearing assessments were conducted at enhancement sites in accordance with the CBMP. These assessments focused on verifying mapped vegetation, identifying habitat features, and evaluating connectivity for key threatened species, particularly the Squirrel Glider.

At Billy Hughes Bridge and Uranquinty Creek, initial field investigations confirmed the presence of hollow-bearing trees and dense vegetation patches suitable for Squirrel Gliders. Vegetation mapping was verified, and areas of ecological value were identified for protection or enhancement. No clearing was undertaken in these areas during the reporting period.

For enhancement sites where clearing had occurred a post clearing assessment was conducted.

Clearing occurred at the following enhancement sites during the reporting period.

TABLE 10: CLEARING EVENTS

SITE	DESCRIPTION
Junee to Illabo	March possession shoulder reconditioning clearing
Junee to Illabo	May possession shoulder reconditioning clearing
Edmondson Street Bridge	Kildare College 66kV tree clearances
Edmondson Street Bridge	Kildare College palm clearances

3.3.2 Plant Community Type Impacts

Vegetation clearing activities were monitored across all enhancement sites. Pre-clearing inspections confirmed mapped vegetation types and verified that no threatened ecological communities would be impacted as a result of any works associated with A2I

All clearing was supervised by a suitably qualified ecologist.

TABLE 11: PLANT COMMUNITY TYPE

NAME OF PLANT COMMUNITY TYPE / ID	IDENTIFIED AREA (HA)	AREA CLEARED REPORTING PERIOD (HA)	TOTAL AREA CLEARED (HA)
277 – moderate – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	0.5	0.076	0.076
277 – poor – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	1.44	0.13	0.13

277 – derived – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	2.3	Nil	Nil
277 – Native plantings – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	0.26	Nil	Nil
277 – Non-native – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	30.5	Nil	Nil
5 – River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion	0.04	Nil	Nil
Miscellaneous Ecosystems – 'Highly Disturbed areas with no or limited Native Vegetation'	N/A	2.04	2.04
Miscellaneous Ecosystems – 'Ornamental Plantings'	N/A	0.1945	0.1945

3.3.3 Threatened Species Habitat Impacts

Ecological field surveys confirmed the presence of several threatened fauna species within the study area, A number of the finds were consistent with the predictions in CoA **E20** however several species were not identified during the survey. Field monitoring identified:

- Squirrel Glider (Petaurus norfolcensis)

Throughout the reporting period. No mortality or injury incidents to threatened fauna was recorded.

TABLE 12: THREATENED FAUNA SPECIES HABITAT IMPACTS

FAUNA SPECIES	AREA (HA)	AREA IMPACTED (HA)	IDENTIFIED DURING REPORTING PERIOD	IDENTIFIED TO DATE
Lower Slopes IBRA Subregion				
Sloane's Froglet (Crinia sloanei)	0.03	Nil	No	No
Squirrel Glider (Petaurus norfolcensis)	0.16	Nil	Yes	Yes
Superb Parrot (Polytelis swainsonii)	0.16	Nil	No	No
Inland Slopes IBRA Subregion				
Sloane's Froglet (Crinia sloanei)	0.23	Nil	No	No
Key's Matchstick Grasshopper (Keyacris scurra)	0.21	Nil	No	No
Squirrel Glider (Petaurus norfolcensis)	1.82	0.206	Yes	Yes
Superb Parrot (Polytelis swainsonii)	1.82	0.206	No	No

3.4 Weather Monitoring

In accordance with the requirements of the EPL, Condition **M3.1**, weather conditions are monitored daily using data sourced from the Bureau of Meteorology (BoM) weather stations along the A2I alignment.

Monitoring includes temperature, wind direction, wind velocity, and rainfall.

The BoM weather stations utilised include the below sites:

TABLE 13: WEATHER STATION SUMMARY

WEATHER STATION	SITE CAPTURED
Albury	- Murray River bridge - Albury Yard - Riverina Highway - Billy Hughes Bridge - Tabletop Yard
Lockhart	- Culcairn Yard - Henty Yard - Yerong Creek Yard - The Rock Yard
Wagga Wagga	- Uranquinty Yard - Pearson St bridge - Cassidy Footbridge - Edmondson St Bridge - Wagga Wagga Station - Bomen Yard - Harefield Yard - Kemp St Bridge - Junee Yard - Olympic Highway - Junee to Illabo

3.5 Water Discharge

No water was discharged from A2I premised sites during the reporting period.

APPENDICES

APPENDIX A

Attended Noise Monitoring Summary

Date	Time (Hrs)	Duration (Min)	Location	Construction Activities	Main source of noise	$LA_{eq\ 15\ minute}$ dB	LA_{max} dB	Period	Audible construction activities	NML	Predicted construction Noise Level ($LA_{eq,15min}$) dB	Compliant (Y/N)	Comments
22/03/2025	13:02	15	701 Olympic Highway, Marinna	March possession - J2I	Highway Traffic	66	85.1	Day	Hi-rail excavator movements, Tamping machine	51	60	Yes	Attended noise monitoring as per W.007 Track Tamping. Public road noise higher than possession works, tamper started up during monitoring however was not audible and stopped minutes after. Excavator on hi-rail reversing with non-tonal alarm was the only audible noise.
22/03/2025	14:30	15	26 Morris St, Illabo	March possession - J2I	Highway Traffic	39.3	62.4	Day	No audible activity	46	52	Yes	Attended noise monitoring as per W.002 Compound Operations. No visible or audible works near compound or receiver, only noise impacts are from public cars on road and birds chirping
22/03/2025	19:46	15	731 Ballengoarrah Lane, Wantiool	March possession - J2I		48.9	64.1	OOHW Evening	Tamping Machine	46	55	Yes	Attended noise monitoring as per W.007 Track Tamping. Highway traffic, cattle and dog barking causing consistent background noise; unable to hear construction related sources
22/03/2025	21:05	15	701 Olympic Highway, Marinna	March possession - J2I	Highway Traffic	60	84.5	OOHW Evening	Hi-rail excavators and rail regulator machine.	46	60	Yes	Attended noise monitoring as per W.007 Track Tamping. Rail saw cutting at 477.910 (approximately 500m north) was inaudible. Highway traffic caused peaks above rail saw. Due to the resident's long driveway verging off Olympic Highway, monitoring was conducted significantly closer to the worksite than the receiver. LAeq would be significantly less at receiver's property based off monitoring results.
22/03/2025	22:09	15	731 Ballengoarrah Lane, Wantiool	March possession - J2I	Highway Traffic	47.9	63.9	OOHW Night	Tamping machine	38	55	Yes	Attended noise monitoring as per W.007 slightly audible Track Tamping ~ 1 minute, Equipment reversing (non-tonal). Vehicles passing on highway were more audible. Moderate exceedances of NML nighttime limits not associated with the project works.
23/03/2025	7:35	15	731 Ballengoarrah Lane, Wantiool	March possession - J2I	Animal Activity and Highway Traffic	50.4	70	OOHW Night	Vibe plate, hydremas, 14t excavators, light vehicles	38	56	Yes	Attended noise monitoring as per W.006 Track Work – Typical. No site works audible or visible, birds were the main source of noise as well as some background highway noise.
23/03/2025	9:25	15	701 Olympic Highway, Marinna	March possession - J2I	Highway Traffic	64.2	86.9	OOHW Day	Hi – rail excavator movements	46	60	Yes	Attended noise monitoring as per W.006 Track Work – Typical, dominant noise source was trucks and cars on highway, opposed to construction works. NML exceedance attributed to non-project noise sources (traffic), therefore noise level considered compliant.
23/03/2025	11:30	15	2-4 Turland St, Illabo	March possession - J2I	Highway Traffic	57.4	81	OOHW Day	LV movement	46	59	Yes	Attended noise monitoring as per W.002 Compound Operation. Dominant noise source was trucks and cars on highway. Compound noise was not audible
23/03/2025	11:55	15	Illabo Public School	March possession - J2I	Highway Traffic	49.5	75.3	OOHW Day	LV movements	55	58	Yes	Attended noise monitoring as per W.002 Compound Operations, the only construction noise audible was a non-tonal excavator beeper in the distance. Dominant noise from highway and birds
23/03/2025	12:30	15	7 Tooheys Lane, Illabo	March possession - J2I	Highway Traffic	59.6 review	76.6	OOHW Day	Rattle Gun, High rail excavator, Manual Shovelling and handheld tools	46	55	Yes	Attended noise monitoring as per W.006 Track Work – Typical. Dominant noise source is highway noise (trucks and cars). Rattle gun and excavator on high rail audible however only during small increments.
23/03/2025	20:36	15	2-4 Turland St	March possession - J2I	Highway Traffic	46.2	68.8	OOHW Evening	LV movements	46	59	Yes	Attended noise monitoring as per W.002 Compound Operations. Site compound active but not audible. Dog, resident and Highway noise dominant
23/03/2025	22:39	15	7 Tooheys Lane, Illabo	March possession - J2I	Highway Traffic	67.3	78.4	OOHW Night	Tamping directly adjacent to receiver	38	70	Yes	Attended noise monitoring as per W.007 Track Tamping. Tampering works predominant noise source throughout measurement. Tamper located directly adjacent to receiver. Highway traffic low. Measurement representative of works. LAeq was compliant with the predicted level (70dB).

23/03/2025	23:30	15	2-4 Turland St, Illabo	March possession - J2I	Highway Traffic and MR LV compound movements	60.4	70	OOHW Night	LV Movements	38	59	Yes	Attended noise monitoring as per W.002 Compound Operations. No site operations audible. Animals and Highway traffic made up the dominant noise sources
24/03/2025	0:32	15	701 Olympic Highway	March possession - J2I	Highway Traffic	51.3	65.9	OOHW Night	Hi - rail excavator	38	60	Yes	Attended noise monitoring as per W.006 Track Work Typical. Construction noise most predominate throughout sample. Monitoring representative of noise levels caused by site works. LAeq was compliant with predicted level.
24/03/2025	1:03	15	26 Morris St, Illabo	March possession - J2I	Highway Traffic	39.1	62	OOHW Night	LV movements	38	52	Yes	Attended noise monitoring as per W.002 Compound Operations. Crickets, some wind. No construction works heard throughout monitoring sample. LAeq was compliant with predicted level.
24/03/2025	8:30	15	701 Olympic Highway, Marinna	March possession - J2I	Highway Traffic	66.1	89.6	Day	LV movement, manual shovelling	51	60	Yes	Attended noise monitoring as per W.006 Track Work – Typical. Dominant noise source during monitoring was highway noise and birds. Trucks were the highest LAF emitter. There were hydremas visible about 100m from monitoring site but not audible. Monitoring occurred approx. 80m from receiver and there were works occurring either side of the receiver/monitor, both 100-200m away
24/03/2025	9:02	15	731 Ballengoarrah Lane, Wantiool	March possession - J2I	Highway Traffic	46.2	67.5	Day	No visible nor audible construction activities occurring near receiver	51	54	Yes	Attended noise monitoring as per W.006 Track Work – Typical. Dominant noise source is birds overhead and highway traffic, specifically trucks. No visible nor audible construction activities occurring near receiver
24/03/2025	10:32	15	26 Morris St, Illabo	March possession - J2I	Local and Highway Traffic	44.9	63.2	Day	Site compound operation	51	52	Yes	Attended noise monitoring as per W.002 Compound Operations. Hybrid generator audible from compound, LVs and loader with reverse tonal beeper. Noise from highway (trucks and cars) and birds also audible.
24/03/2025	11:13	15	Illabo Public School	March possession - J2I	Highway Traffic	46.8	85.1	Day	LVs in compound, generator	55	59	Yes	Attended noise monitoring as per W.002 Compound Operations. Dominant noise source from public road. Monitoring appro 50m from school and 200m from compound.
24/03/2025	12:01	15	2-4 Turland St, Illabo	March possession - J2I	Highway Traffic	62.5	82.9	Day	LV movements	51	59	Yes	Attended noise monitoring as per W.002 Compound Operations. Noise audible from the highway (trucks and cars) and birds, no construction noise audible.
24/03/2025	13:40	15	7 Tooheys Lane, Illabo	March possession - J2I	Highway Traffic	66.3	87.6	Day	14t excavator, LV movements	51	69	Yes	Attended noise monitoring as per W.006 Track Work - Typical. Dominant noise from trucks and cars on highway. Non-tonal reversing beeper from excavator audible for a few mins during monitoring, otherwise no construction noise audible. Monitor in-between receiver and rail, approx 20m from receiver and 60m from rail.
03/05/2025	9:50	15	701 Olympic Highway, Marinna	May Possession - J2I	Highway Traffic	66.9	79.6	Day	Ballast regulator moving ballast along high rail	51	60	Yes	Attended noise monitoring as per W.006 Track Work – Typical, Dominant noise source was highway traffic. Ballast regulator was only audible for ~1min intervals whilst moving along high rail.
03/05/2025	10:22	15	731 Ballengoarrah Lane, Wantiool	May Possession - J2I	Highway Traffic	45	73.5	Day	Crane and FEL movements	51	54	Yes	Attended noise monitoring as per W.006 Track Work Typical. Martinus construction works hardly audible. Birds were main source and distance highway traffic. FELs and Cranes on access track not audible. Observation of non-tonal reverse beeper used. LAeq compliant with predicted level.
03/05/2025	15:00	15	Illabo Public School	May Possession - J2I	Highway Traffic	49	76.3	Day	LV movements	55	59	Yes	Attended noise monitoring as per W.002 compound operations. No activities audible from construction works or compound facility. File 48 LAeq compliant.
03/05/2025	15:22	15	7 Tooheys Lane, Illabo	May Possession - J2I	Highway Traffic	60.9	78	Day	No audible activity	51	55	Yes	Attended noise monitoring as per W.002 Compound Operations. No activities audible from construction works or compound facility. Highway traffic primarily captured under sample.

03/05/2025	16:00	15	26 Morris St, Illabo	May Possession - J2I	Highway Traffic	47.6	71	Day	LV movements	46	52	Yes	Attended noise monitoring as per W.002 compound operations. Only activities audible from compound facility is LVs to and from compound. LAeq compliant.
03/05/2025	20:13	15	26 Morris St, Illabo	May Possession - J2I	Highway Traffic	44.7	60.9	OOHW Evening	LV movements	46	52	Yes	Attended noise monitoring as per W.002 Compound Operations. Minimal activity from the compound. Highway traffic captured in sample exceeded any possession related noise. Sample compliant. LAeq compliant.
03/05/2025	20:46	15	701 Olympic Highway, Marinna	May Possession - J2I	Highway Traffic	49	71.9	OOHW Evening	Hi – rail excavators	46	60	Yes	Attended noise monitoring as per W.006 Track Work Typical. Sample captured primarily highway traffic. Hi-rail excavator heard in distance however averaged around 40dbl with no highway traffic. Sample compliant. LAeq compliant.
04/05/2025	1:01	15	731 Ballengoarrah Lane, Wantiool	May Possession - J2I	Highway Traffic	47.6	67.1	OOHW Night	Destressing module	38	60	Yes	Attended noise monitoring as per W.006 Track Work Peak. Destressing module occurring approx. 500m north of receiver. Highway traffic from Olympic highway created spikes in sample. Readings representative and well within compliance levels. LAeq compliant.
04/05/2025	1:40	15	Illabo Hotel	May Possession - J2I	Highway Traffic	49.9	74	OOHW Night	LV movements and generator	45	59	Yes	Attended noise monitoring as per W.002 compound operations. Site compound operational. Sample mainly captured highway traffic.
04/05/2025	3:08	15	2-4 Turland St, Illabo	May Possession - J2I	Highway Traffic	45.4	67.3	OOHW Night	LV movements	38	59	Yes	Attended noise monitoring as per W.002 compound operations. LAeq compliant.
04/05/2025	8:15	15	731 Ballengoarrah Lane, Wantiool	May Possession - J2I	Highway and Local Traffic	50.9	76.3	OOHW Day	LVs, hydremas x3, hi-rail excavator, water truck - capping/ballast transport/unloading excavator (hi-rail), water trucks on access road, LV movements	46	58	Yes	Attended noise monitoring as per W.005 Track work peak. Peak measurements came from animals and local traffic which drowned out any slight worksite sounds. LAeq compliant.
04/05/2025	9:03	15	701 Olympic Highway, Marinna	May Possession - J2I	Highway Traffic and Animals	64.9	88.3	OOHW Day	LV movements	46	64	Yes	Attended noise monitoring as per W.002 Compound Operations. peak measurements came from other noise sources such as the highway and birds. LAeq compliant.
04/05/2025	10:38	15	2-4 Turland St, Illabo	May Possession - J2I	Highway Traffic	59.7	77.1	OOHW Day	LV movements And tamping machine	46	69	Yes	Attended noise monitoring as per W.002 Compound Operations. LAeq compliant.
04/05/2025	11:05	15	7 Tooheys Lane, Illabo	May Possession - J2I	Highway Traffic	58.6	82.1	OOHW Day	LV movements	46	73	Yes	Attended noise monitoring as per W.002 Compound Operations. LAeq compliant.
04/05/2025	12:08	15	26 Morris St, Illabo	May Possession - J2I	Highway Traffic	43.4	66.8	OOHW Day	LV movements	46	55	Yes	Attended noise monitoring as per W.002 Compound Operations. Unable to hear any MR activities, dominant noise source is highway traffic. LAeq compliant.
04/05/2025	22:22	15	7 Tooheys Lane, Illabo	May Possession - J2I	Highway Traffic	41.4	61.2	OOHW Night	LV movements	38	55	Yes	Attended noise monitoring as per W.002 Compound Operations. LAeq compliant.

04/05/2025	22:42	15	731 Ballengoarrah Lane, Wantiool	May Possession - J2I	Highway Traffic	51.7	68.4	OOHW Night	DCP testing	38	56	Yes	Attended noise monitoring as per W.006 Track work- Typical. DCP testing being conducted but not audible. Animal noise dominating sample. LAeq compliant.
04/05/2025	23:15	15	701 Olympic Highway, Marinna	May Possession - J2I	Highway Traffic	66.1	80.5	OOHW Night	hi-rail moving off track	38	60	Yes	Attended noise monitoring as per W.006 Track Work - Typical. Sample primarily captured highway traffic. Worksite noise was minimal with ~1-2 minutes of MR LV movement. LAeq compliant.
04/05/2025	23:32	15	Illabo Public School	May Possession - J2I	Highway Traffic	43	70.7	OOHW Night	LV movements	38	59	Yes	Attended noise monitoring as per W.002 Compound Operations. Unable to hear any MR activities LAeq compliant.

APPENDIX B

Vibration Monitoring Summary

TABLE 14 - COSMETIC DAMAGE

Monitoring Location	Date	Works Being Carried Out	Attended or Continuous	Event Based Monitoring	Daily Measured PPV vSum (mm/s)	Cosmetic Damage Criteria (mm/s)	Compliant	Comments
Marinna Silos	4/05/2025 0:00	May Possession Scope; culvert head wall extensions, Shoulder recon works requiring Hi-rail equipment. Shoulder Recon - Tamping occurred on the DN Main alongside the Marinna Silos. A CC10 (1-2T) vibratory roller was also used in the corridor during the shoulder recon.	Continuous	Yes	1.26	20 - 50	YES	
Marinna Silos	5/05/2025 0:00		Continuous	Yes	3.32	20 - 50	YES	During pack up of the monitoring device it was dropped causing a 1666.775 reading. However, this was omitted as it was not representative of works the PPV vSum for the day until that point has been used.

APPENDIX C

Surface Water Quality Monitoring Reports

March Surface Water Results

Sample ID	TDS	pH	DO	EC	Temp	Chlorophyll-a	TN	TP	TSS	Al	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN	TKN	NOx	BTEX	Naphthalene	TRH	TRH C6 -C9	TRH C10 - C36	COD	BOD
SW01 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW01 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW02 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW02 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW03 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW03 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW07 – US*	✓	✓	✗	✓	✓	✗	✗	✗	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW07 – DS*	✓	✓	✗	✗	✓	✓	✗	✗	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

Sample ID	TDS	pH	DO	EC	Temp	Chlorophyll-a	TN	TP	TSS	AI	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN	TKN	NOx	BTEX	Naphthalene	TRH	TRH C6 -C9	TRH C10 - C36	COD	BOD
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria ✗ – parameter exceeds criteria
NST – No Sample Taken
*No construction activities had commenced within the catchment of this sample at the time of sampling.

April Surface Water Results

Sample ID	TDS	pH	DO	EC	Temp	Chlorophyll-a	TN	TP	TSS	Al	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN	TKN	NOx	BTEX	Naphthalene	TRH	TRH C6 -C9	TRH C10 - C36	COD	BOD
SW01 – US*	✓	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW01 – DS*	✓	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW02 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW02 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW03 – US*	✓	✓	✗	✓	✓	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW03 – DS*	✓	✓	✗	✓	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW04 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW07 – US*	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW07 – DS*	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria

✗ – parameter exceeds criteria

NST – No Sample Taken

*No construction activities had commenced within the catchment of this sample at the time of sampling.

May Surface Water Results

Sample ID	TDS	pH	DO	EC	Temp	Chlorophyll-a	TN	TP	TSS	Al	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN	TKN	NOx	BTEX	Naphthalene	TRH	TRH C6 -C9	TRH C10 -C36	COD	BOD
SW01 – US*	✗	✗	✓	✗	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW01 – DS*	✗	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW02 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW02 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW03 – US*	✓	✓	✗	✓	✗	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW03 – DS*	✓	✗	✗	✗	✗	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW04 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW07 – US*	✓	✗	✗	✓	✗	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW07 – DS*	✓	✗	✓	✓	✗	✗	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria

✗ – parameter exceeds criteria

NST – No Sample Taken

*No construction activities had commenced within the catchment of this sample at the time of sampling.

June Surface Water Results

Sample ID	TDS	pH	DO	EC	Temp	Chlorophyll-a	TN	TP	TSS	Al	AS	CD	CR	CU	FE	PB	MN	HG	NI	ZN	TKN	NOx	BTEX	Naphthalene	TRH	TRH C6 -C9	TRH C10 - C36	COD	BOD
SW01 – US*	✓	✗	✗	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW01 – DS*	✓	✗	✓	✗	✗	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓
SW02 – US*	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW02 – DS*	✓	✗	✗	✗	✗	✓	✓	✓	✗	✗	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW03 – US*	✗	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW03 – DS*	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW04 – US*	✓	✗	✗	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	✓	✗	✗	✗	✗	✓	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW07 – US*	✓	✗	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW07 – DS*	✓	✗	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria

✗ – parameter exceeds criteria

NST – No Sample Taken

*No construction activities had commenced within the catchment of this sample at the time of sampling.

APPENDIX D

Calibration Certificates

MARTINUS