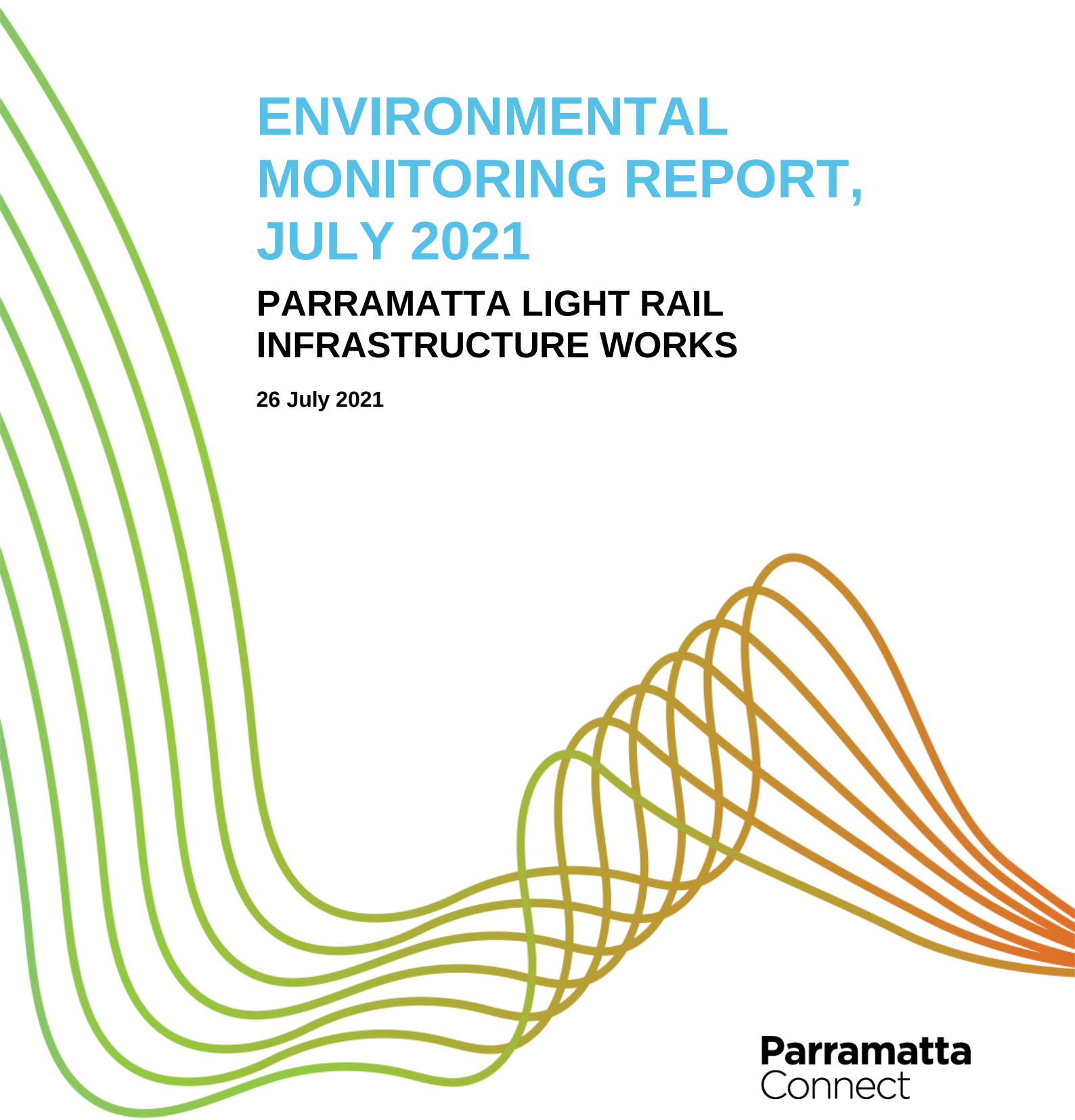
ENVIRONMENTAL MONITORING REPORT, JULY 2021

PARRAMATTA LIGHT RAIL INFRASTRUCTURE WORKS

26 July 2021



Parramatta Connect

Contents

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Rev.	Date	Prepared By	Reviewed By	Approved By	Remarks
0	26 July 2021	A. Nair	H. Chemney	H. Chemney	Nil
1	28 July 2021	A. Nair	H. Chemney	H. Chemney	Nil

1. Introduction

1.1. Background

Parramatta Light Rail Stage 1 ('Stage 1') will connect Westmead to Carlingford via Parramatta Central Business District (CBD) and Camellia. Stage 1 is expected to be operational in 2023.

Stage 1 will create new communities, connect great places and help both local residents and visitors move around and explore what the region has to offer. The route will link Parramatta's CBD and train station to a number of key locations, including the Westmead Precinct, the Parramatta North Growth Centre, the new Western Sydney Stadium, the Camellia Town Centre, the new Powerhouse Museum and Riverside Theatre arts and cultural precinct, the private and social housing redevelopment at Telopea, the Rosehill Gardens Racecourse and the three Western Sydney University campuses.

Key features of Stage 1 include:

- A new dual track light rail network of approximately twelve (12) kilometres in length, including approximately seven (7) kilometres within the existing road corridor and approximately five (5) kilometres within the existing Carlingford Line and Sandown Line, replacing current heavy rail services
- Sixteen (16) stops that are fully accessible and integrated into the urban environment including a terminus stop at each end of Westmead and Carlingford
- High frequency 'turn-up-and-go' services operating seven days a week from 5am to 1am. Weekday services will operate approximately every 7.5 minutes in the peak period between 7am and 7pm
- Modern and comfortable air-conditioned light rail vehicles, nominally 45 metres long and driver-operated, each carrying up to 300 passengers.
- Intermodal interchanges with existing public transport services at Westmead terminus, Parramatta CBD and the Carlingford terminus
- Creation of two light rail and pedestrian zones (no general vehicle access) within the Parramatta CBD along Church Street (generally between Market Street and Macquarie Street) and along Macquarie Street (generally between Horwood Place and Smith Street)
- A Stabling and Maintenance (SaM) Facility located in Camellia for light rail vehicles to be stabled, cleaned and maintained
- New bridge structures along the alignment including over James Ruse Drive and Clay Cliff Creek, Parramatta River (near the Cumberland Hospital), Kissing Point Road and Vineyard Creek, Rydalmere
- Alterations to the existing road network including line marking, additional traffic lanes and turning lanes, new traffic signals, and changes to traffic flows
- Relocation and protection of existing utilities
- Public domain and urban design works along the corridor and at Stop precincts
- Closure of the heavy rail line between Carlingford and Clyde
- Active transport corridors and additional urban design features along sections of the alignment and within Stop precincts
- Integration with the Opal Electronic Ticketing System (ETS)
- Real time information in light rail vehicles and at Stops via visual displays and audio.

1.1.1. Statutory Context

The Parramatta Light Rail is classified as Critical State Significant Infrastructure (CSSI) and was subject to environmental impact assessment under the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EIS assessed impacts for Parramatta Light Rail Stage 1 (Westmead to Carlingford) including the light rail and associated road enabling works.

Stage 1 received Infrastructure Approval from the Minister for Planning under Section 5.19 of the EP&A Act on 29 May 2018 (Critical State Significant Infrastructure Application SSI-8285), subject to the conditions provided in the Instrument of Approval, specifically Schedule B – Ministerial Conditions of Approval.

The Infrastructure Approval was subsequently modified under Section 5.25 of the EP&A Act on 21 December 2018 and 25 January 2019.

The planning approval, modifications and related environmental assessment documents are located at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8285.

A Construction Environmental Management Plan (CEMP) has been prepared for the Parramatta Light Rail Package 4 – Infrastructure Works (Infrastructure Works). The purpose of the CEMP and associated Sub-plans is to address the requirements of the:

- Minister's Conditions of Approval (CoA) SSI-8285
- Revised Environmental Mitigation and Management Measures (REMMMs)
- Environmental Performance Outcomes (EPOs)
- Applicable legislation and contractual requirements, including the PLR Stage 1 Infrastructure Contract Project Deed (ISD-17-6721).

The REMMMs and EPOs are listed in Parramatta Light Rail Stage 1 Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement (the EIS), as amended by the Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report) (March 2018) (the SPIR). The CEMP and associated Sub-plans were approved the Secretary on the 21 November 2019.

1.2. Scope

The scope of this report is report is to present monthly results of the inspection and monitoring programs outlined in the Infrastructure Works CEMP and associated Sub-plans, including the results of the construction monitoring programs referred to in Condition C9 of the Planning Infrastructure Approval.

Environmental inspections and monitoring are undertaken to:

- Validate the predicted impacts of the Infrastructure Works
- Measure the effectiveness of environmental controls
- Track progress against targets and objectives of the CEMP.

The monitoring requirements for nominated aspects are included in the relevant Sub-plans and summarised in **Table 1-1**.

Where relevant, data will be presented on a progressive basis (i.e. monthly summary) to identify trends.

The data of the monitoring programs will also be reviewed annually in the Annual Environment Report.

Table 1-1 Monthly Environmental Monitoring Reporting Requirements

CEMP or Sub-plan	Monitoring program	Distribution
Noise and Vibration Management Sub-plan	– Locations and descriptions of monitoring undertaken – Noise monitoring results – Summary of any exceedance of the nominated criteria – Corrective actions	– City of Paramatta Council – Cumberland Council – EPA – NSW Health – TfNSW – IC – ER – AA – Made publicly available
Soil and Water Management Sub-plan	– Weather forecasts and observations – Water Quality (Turbidity) monitoring – Discharge and dewatering monitoring	– City of Paramatta Council – Cumberland Council – EPA – DOI Water – TfNSW – IC – Made publicly available
Air Quality and Dust Management Sub-plan	– Weather observations – Dust deposition monitoring – Real time aerosol dust monitors – Asbestos fibre air monitoring	– EPA – TfNSW – IC – Made publicly available
Grey-headed Flying-fox (GHFF) Construction Monitoring Program	– Weekly visual checks of GHFF camp during high risk periods (1 September to 31 January)	– TfNSW

2. Site Activities

Table 2-1 provides a summary of the site activities for this reporting period (26 June 2021 to 25 July 2021).

Table 2-1 Site Activities During Reporting Period

Precinct	Site Activities
Westmead and North Parramatta	**Westmead** – Ongoing drainage and Combined Service Route (CSR) and Track Works – Ongoing Property Adjustment Works **Cumberland** – Ongoing drainage and Combined Service Route and Track Works – Bridge Works complete **North Parramatta** – Ongoing drainage and Combined Service Route and Track Works – Ongoing Property Adjustment Works
Parramatta CBD	**Area 2 West (CBD)** – Ongoing utility and services installations on Church Street and Macquarie Street – Ongoing electrical and lighting works – Ongoing Multifunction Pole works – Ongoing civil works (tree pits, CSR, footpaths) along Church Street and Macquarie – Drainage works along Church Street and Macquarie Street – Lennox Bridge North drainage – Track works along Church Street and Macquarie Street – Landscaping and paving on Church Street – Intersection works: ▪ Church/George Street Intersection **Area 2 East (Smith Street to Arthur Street)** – Utility and services installations on Macquarie Street, Charles Street, Harris Street, George Street, Purchase Street, Alfred Street, Tramway Avenue – Ongoing installation of Multifunction Poles – Drainage works on Macquarie Street, Charles Street, Harris Street, George Street, Purchase Street, Alfred Street – Ongoing civil works (pavement, CSR, road works) along Macquarie Street, Harris Street / Robin Thomas Reserve, George Street, Tramway Avenue – Track works along Macquarie Street, George Street and Tramway Avenue – George Street Underbore – road, footpath and reinstatement of work area – Intersection works: ▪ Macquarie/Harris Street ▪ George/Purchase Street

Precinct	Site Activities
Camellia and Carlingford line	**Camellia** – James Ruse Drive (JRD) bridge girder installation at Tramway Ave. – JRD Bridge deck and fit out works. – Active Transport Link (ATL) and track slab / ballast track works from Camellia Junction to Parramatta River. – Track, road intersection and landscaping works at Grand Avenue and 13a Grand Ave. – CSR and Drainage works at Grand Avenue Overpass (South of Camellia Junction) **Carlingford Line** – James Hardie, Camellia Bridge, Vineyard Creek, Kissing Point Road & Leamington Road bridge fit out and track works. – CSR works from Camellia to Dundas. – Stormwater drainage works from Camellia to Carlingford – Ballast track from Rydalmere to Carlingford – Track slab works at Telopea – Telopea and Carlingford Stop and Platform Works – ATL works from Camellia to Carlingford – Overhead wire and lighting works from Camellia to Carlingford. – Soft landscaping works from Camellia to Carlingford – Road and footpath connections from Dundas to Carlingford

3. Monitoring Results

Section 3 presents a summary of the environmental inspection and monitoring programs completed during the reporting period (26 June 2021 to 25 July 2021). Detailed monitoring results for each activity are presented in the appendices to this report.

3.1. Inspections

A total of three ER inspections, one AA inspection and two TfNSW inspections were completed during the reporting period in addition to 21 internal inspections. It is noted that TfNSW also attends all ER inspections.

Table 3-1 provides a summary of the number of actions raised and closed within the agreed timeframe.

Table 3-1 Inspections for reporting period

Date	Number of Inspections	Type	Actions	Closed in Time
28/06/21	3	Internal Inspection	4	Yes
29/06/21	2	Internal Inspection	9	Yes
29/06/21	1	ER Inspection	11	Yes
01/07/21	1	Internal Inspection	4	Yes
05/07/21	3	Internal Inspection	4	Yes
06/07/21	1	Internal Inspection	6	Yes
06/07/21	1	ER Inspection	5	Yes
06/07/21	1	TfNSW Inspection	5	Yes
09/07/21	1	Internal Inspection	2	Yes
09/07/21	1	TfNSW Inspection	12	Yes
12/07/21	4	Internal Inspection	5	Yes
12/07/21	1	AA Inspection	0	N/A
13/07/21	2	Internal Inspection	5	Yes
13/07/21	1	ER Inspection	9	Yes
14/07/21	1	Internal Inspection	2	Yes
15/07/21	1	Internal Inspection	7	Yes
16/07/21	1	Internal Inspection	3	Yes
21/07/21	1	Internal Inspection	2	Yes
Total	**28**	**-**	**95**	**-**

It should be noted that frequency of end of month inspections was reduced due to the COVID related lockdown event commencing from Monday 19 July.

3.2. Weather

The total rainfall recorded during the reporting period was 25.6 mm with four days exceeding one millimetre of rain. No events exceeded the 80th percentile (25.8mm).

During the reporting period, there were 13 days where the maximum wind gust recorded was greater than 25km/hr and two days where the maximum wind gust recorded was greater than 60km/hr. There was a total of four days where wind speeds greater than 25km/hr were forecast and one day where wind speeds greater than 50km/h were forecast. On those days, a notification was issued to the construction team to alert them of the strong winds forecast, including direction for necessary controls to be implemented.

A summary of the weather observations and weather events during the reporting period of relevance to the Soil and Water Management Sub-plan and Air Quality Management Sub-Plan Trigger Action Response Plans (TARPs) are summarised in **Table 7-2**. A comparison between long term monthly means and recorded values can be found in **Figure 3-2**.

Detailed weather observation records for the reporting period are presented in **Appendix A-1**.

Table 3-2 Weather Summary and Trigger Weather Events for reporting period[1]

Weather Event	Forecast	Observation
Minimum temperature	3.0°C	2.4°C
Maximum temperature	21.0°C	22.0°C
Total rainfall	23.0 mm	25.6 mm
Number of days with rain (>1mm)	4 days	4 days
>80th percentile (25.8mm) rain events	No days	No days
>80th percentile (33.1mm) rain events	No days	No days
Flood warning / events	None	None
>25km/hr wind[2]	4 days	13 days
>50km/hr wind	1 day	2 days
>60km/hr wind	No days	2 days

[1]Weather summary based on data from the 26 June 2021 to 25 July 2021 (30 days).

[2]Wind data from Sydney Olympic Park AWS (Archery Centre) {station 066212}. Weather data from Parramatta North (Masons Drive) {station 066124}.

Note: Red text indicates observation greater than forecast.

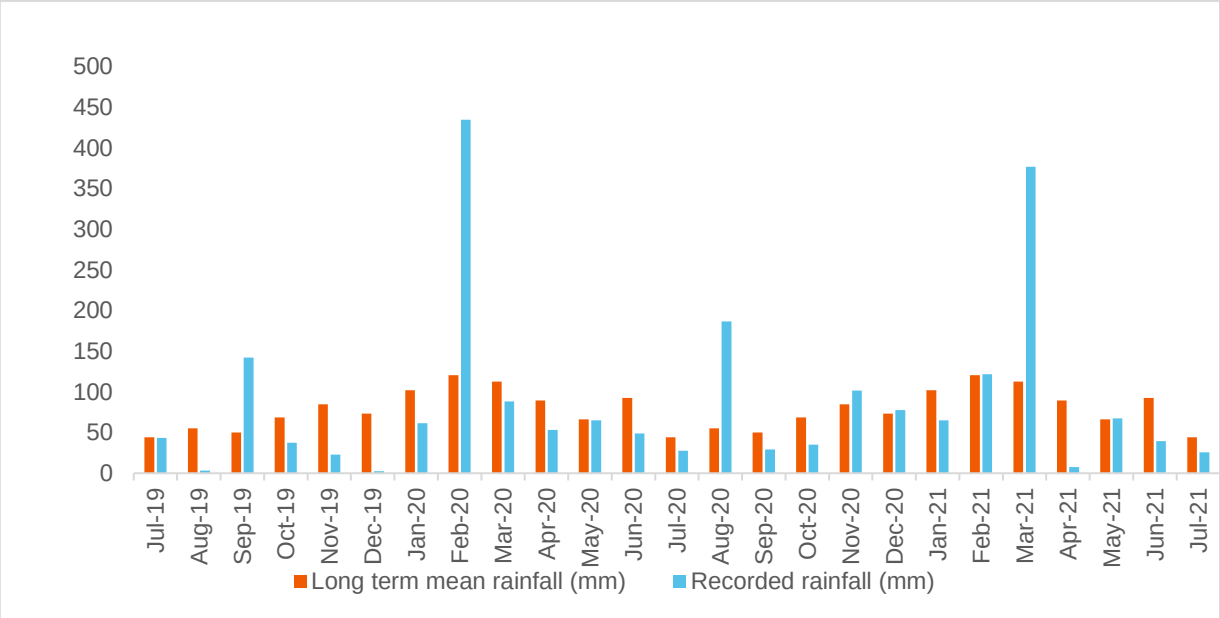

Figure 3-1 Monthly rainfall comparison

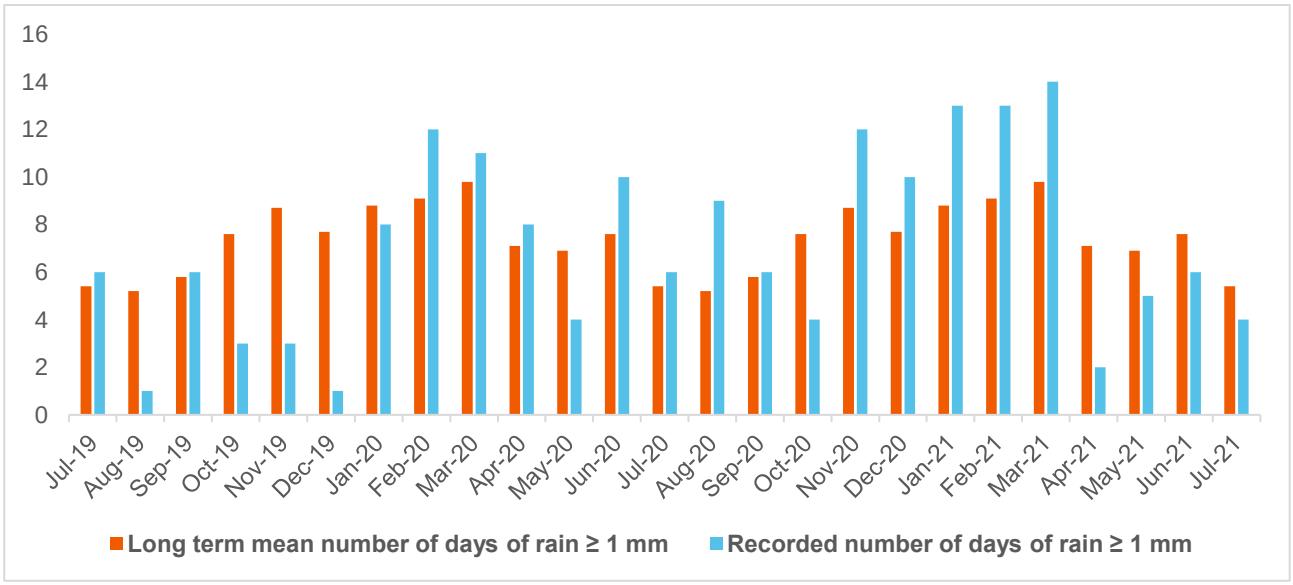

Figure 3-2 Monthly rain days comparison

3.3. Noise and Vibration

Table 3-3 provides a summary of noise monitoring events conducted during the reporting period. Detailed noise monitoring results and comments are presented in **Appendix A-2**. There were no exceedances of the predicted noise level ($L_{Aeq15min}$) during the reporting period.

Additional information on the hours of works, respite requirements and alternative accommodation is provided in the Noise and Vibration Management Sub-plan (Section 11.3).

Vibration monitoring events completed during the reporting period are summarised in **Table 3-4** and detailed results and comments are presented in **Appendix A-2**. No attended vibration monitoring was undertaken during the reporting period.

All noise and vibration monitors used during the reporting period, together with current NATA calibration data, are provided in **Table 3-5**.

Continuous noise and vibration monitoring was undertaken during the reporting period at medical facilities in Westmead that have been identified as sensitive receivers. In consultation with the Health Administration Corporation, monitoring will be ongoing for 12 months. Locations of the noise and vibration monitors are provided in **Table 3-6.**

Table 3-3 Summary of Noise Monitoring for reporting period

Date	Monitoring Location	Attended/Continuous	Description
26/06/2021	Meriton – 330 Church Street	Attended	Pavement removal
26/06/2021	Meriton – 330 Church Street	Attended	Pavement removal
12/07/2021	Meriton – Bay Vista	Attended	Pavement cutting, truck movements
12/07/2021	246 George Street	Attended	James Ruse Drive bridge super T installation
15/07/2021	1 Lloyds Avenue	Attended	Ballast tamping
26/06/2020 -ongoing	Westmead Institute for Medical Research (Sleep Lab)	Continuous	General construction
26/06/2020 -ongoing	Westmead Institute for Medical Research (Brain Dynamics Centre)	Continuous	General construction
26/06/2020 -ongoing	Children's Medical Research Institute (Microscopy Labs)	Continuous	General construction
26/06/2020 -ongoing	Cumberland Hospital (Clinical psychology rooms)	Continuous	General construction

Table 3-4 Summary of Vibration Monitoring for reporting period

Date	Monitoring Location	Attended/Continuous	Description
26/06/2020	Westmead Institute for Medical Research (HAL incubators)	Continuous	General construction
26/06/2020	Westmead Institute for Medical Research (Microscopy Labs)	Continuous	General construction
26/06/2020	Children's Medical Research Institute (Microscopy Labs)	Continuous	General construction

Table 3-5 Noise and Vibration Monitors and NATA Calibration

Equipment	Serial Number	Calibration Date
Noise Level Meter	00973277	2/12/2021
Noise Level Meter	00661732	01/06/2022
Noise Level Meter	00973275	17/12/2021
Vibration Monitor	BE14639	10/02/2023
Vibration Monitor	BE17441	14/07/2022

Table 3-6 HAC Noise and Vibration Monitor Locations

Organisation	Monitor Type	Location
Westmead Institute for Medical Reach	Vibration Monitor	HAL incubators
		Microscopy Labs
	Noise Monitor	Sleep Lab
		Brain Dynamics Centre
Children's Medical Research Institute	Vibration Monitor	Microscopy Labs
	Noise Monitor	Labs (Level 1)
Cumberland Hospital	Noise Monitor	Clinical psychology rooms

Note: The calibration of the monitoring equipment is checked in the field before and after the noise measurement period per Standards Australia AS/IEC 60942:2004/IEC 60942:2003–Electroacoustic – Sound Calibrators.

3.4. Soil and Water

3.4.1. Water quality in receiving waters

A pre-construction investigation to establish water quality objectives for the project is included within the EIS Technical Paper 6 – Water Quality Assessment.

There were no triggers for water sampling during the reporting period and as such no monitoring was undertaken.

Table 3-7 Water Quality in Receiving Waters

Date	Type	Type of Results	Wet / Dry	Locations
-	-	-	-	-

Table 3-8 Water Monitor Calibration

Equipment[1]	Serial Number	Calibration Date
Water Quality Monitor	DV7F6E7J	23/07/2022

[1]All equipment is calibrated by NATA standards.

3.4.2. Discharge and dewatering

There were seven discharge events during the reporting period as presented in **Table A-3-2**. All events were compliant with discharge criteria.

3.5. Air Quality

3.5.1. Dust Deposition Monitoring

A dust deposition gauge was installed at 13A Grand Avenue in Camellia in December 2019 in advance of works which commenced at the beginning of February 2020. Baseline data indicated that the value of Total Insoluble Matter (TIM) was 3.9 g/m^2 before the commencement of construction activities at 13A Grand Avenue.

Additional dust gauges were progressively installed at Rydalmere Station, Dundas Station, Carlingford and Telopea in advance of large-scale earthworks.

From December 2020 onwards, results have been presented as both TIM and Ash Content. The Ash Content method of analysis involves burning the TIM in a furnace to rid the sample of combustible materials such as vegetative matter, coal and insects. The remaining non-combustible material is then weighed to provide a more accurate dust monitoring result.

Dust deposition results are summarised in **Table A-4-1** in **Appendix A-4**, noting that data is received one month in arrears. All results from the previous reporting period had a satisfactory level of ash content with the exception of 13a Grand Avenue which was recorded at 7.0 g/m^2 ash content and 8.0 g/m^2 TIM.

Exceedance in ash content at 13a Grand Avenue is likely due to high traffic volume on site during the reporting period. Dust management controls were reviewed at the site and the use of the water cart was subsequently increased. With track works for the area close to completion and soft landscaping to soon commence, it is expected that the level of TIM and ash content will be below the trigger value in future reporting periods.

In the case of Dundas, the TIM level was 4.2 g/m^2 however the ash content was below the trigger value at 3.5 g/m^2. As a precaution, dust management controls were reviewed at the site and the use of the water cart was subsequently increased.

3.5.2. Asbestos Fibre Monitoring

Asbestos air monitoring is completed in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

Asbestos Fibre Monitoring results are summarised in **Table A-4-2** in **Appendix A-4**. All reported results were satisfactory and conform with the minimum action level of <0.01 fibres /mL for control monitoring as outlined in Work, Health and Safety (2017) Regulation; and SafeWork NSW (2019) Code of Practice – How to Safely Remove Asbestos.

3.6. Flora and Fauna

3.6.1. Grey-Headed Flying Fox Monitoring

A Grey-Headed Flying Fox (GHFF) camp is located in Parramatta Park which lies approximately 150m from the project boundary at the nearest point.

Under Condition of Approval C9, a GHFF Construction Monitoring Program has been developed by TfNSW. The requirements of this Program have been reflected in the Flora and Fauna Management Sub-plan and include visual inspections on a weekly basis during the 'high risk' months of September to January. If distress is observed within the camp, immediate notification must be provided to TfNSW.

In addition, as required by the Environmental Work Method Statement for Bridge Road Bridge, a trained ecologist from Narla Environmental is required to undertake additional inspections of the camp during bridge piling works (**Table 3-9**). As these works have concluded, it was determined that weekly visual inspections and Narla monitoring were not required for the reporting period.

Table 3-9 Observations from Visual Monitoring of Grey Headed Flying Fox Camp

Date	Time	Works	Notification Triggers[1]	Comments
-	-	-	-	-

[1]Notification triggers include: >50% of the roost takes flight for over 20 minutes, GHFF leaving the roost in daylight hours, unusual vocalisations, located on or 2m from the ground, panting, saliva spreading, adults moving away from young, GHFF injured or killed on site (including aborted foetuses).

3.7. Issues/incidents/non-compliance

Table 3-10 provides a summary of environmental compliance during the reporting period. There were three environmental incidents and no non-compliances identified during the reporting period.

Table 3-10 Issues/incidents/non-compliances

Date	Location	Description
07/07/2021	George Street	Hydraulic Oil Leak – Concrete agitator had a hydraulic hose leak whilst travelling along George Street. Spill kit was immediately deployed, and street sweeper arrived on site with no loss of oil to stormwater.
12/07/2021	O'Connell Street/Great Western Highway	Spoil Spill – Spoil spilled from the tail gate of a bogie. The street sweeper was deployed and there was no loss of spoil to stormwater.

13/07/2021	Camelia	Tree Damage – Semi-trailer delivering material to a worksite in Camelia via the Bilbergia Driveway impacted a tree whilst turning causing a tree limb to detach.

Appendices

A-1 Weather Observations

Table A-1-1 Weather Observations: Parramatta North (Masons Drive) {station 066124}.

Date	Temperatures		Rain	9:00 AM				
	Min	Max		Temp	RH	Cld	Dir	Spd
	°C	°C	mm	°C	%	8th	km/h	
26/06/2021	7.8	18	0	13.8	66	0	NNW	11
27/06/2021	4.6	18.6	0	10.8	75	0	NNW	6
28/06/2021	5.6	16.1	0	9.2	84	5	WSW	4
29/06/2021	7.2	16	1	11.5	96	6	W	2
30/06/2021	10.6	17.9	5.6	11.8	97	8	WSW	2
1/07/2021	7.9	16	0.6	11.6	99	8	Calm	
2/07/2021	9	20.2	4.2	11.6	99	8	Calm	
3/07/2021	5.8	19.7	0	9	93	0	W	4
4/07/2021	3.7	15.7	0	9.4	69	0	W	6
5/07/2021	4.1	16.3	0	9.5	74	0	W	6
6/07/2021	3.6	15.8	0	8.2	79	6	WNW	4
7/07/2021	2.4	16.8	0	7.8	86	5	NW	4
8/07/2021	3.3	16.3	0	8.2	95	4	NW	4
9/07/2021	5.8	12.9	0.2	9.3	96	8	W	2
10/07/2021	8.4	15.5	5.2	12.5	80	7	SSW	9
11/07/2021	7.4	17.2	5	11.2	94	4	Calm	
12/07/2021	5.4	17.7	0.6	9.1	96	4	NW	2
13/07/2021	5.2	19	0.6	12.3	82	1	NW	6
14/07/2021	11.5	18	0	13.8	66	8	NNW	2
15/07/2021		22	0.6	18	71	0	NW	4
16/07/2021	8.7	18.7	0.6	15	70	0	NW	9
17/07/2021	9.5	14.5	0.4	13.4	51	4	WNW	44
18/07/2021	9	18.2	0	13.8	63	0	W	6
19/07/2021	3.5	16	0	9.4	84	4	NW	4
20/07/2021	5	14.9	0	12	64	4	WNW	4
21/07/2021	7.8	15.7	0	10.8	54	4	SSW	15
22/07/2021	2.6	17.3	0	7.9	74	0	NW	6
23/07/2021	6.5	16.1	0.4	13	72	6	NNE	7
24/07/2021	8.2	18	0.6	13.2	72	7	NW	4
25/07/2021	9.8	15.2	0	11.6	55	3	WSW	26

Table A-1-2 Wind Observations: Sydney Olympic Park AWS (Archery Centre) {station 066212}.

Date	Maximum Wind Gusts			9:00 AM		3:00 PM	
	Direction	Speed	Time	Direction	Speed	Direction	Speed
	km/h		local	km/h		km/h	
26/06/2021	WNW	35	10:58	NW	13	WNW	17
27/06/2021	WNW	22	10:57	NW	4	WNW	9
28/06/2021	S	20	14:58	WNW	7	SSE	11
29/06/2021	W	15	9:41	WNW	4	Calm	
30/06/2021	WNW	15	8:11	NW	7	ENE	6
1/07/2021	NW	15	23:47	NNW	2	E	6
2/07/2021	WNW	20	10:44	WNW	9	NNW	9
3/07/2021	NW	15	15:14	WNW	7	Calm	
4/07/2021	NW	30	10:26	NW	11	NW	11
5/07/2021	WSW	24	10:56	WNW	9	W	11
6/07/2021	W	22	8:57	WNW	11	NW	6
7/07/2021	NW	17	9:32	NW	9	SE	2
8/07/2021	NW	15	9:30	NW	7	Calm	
9/07/2021	WNW	20	20:15	WSW	6	WNW	9
10/07/2021	SSW	31	15:11	WSW	9	SSW	13
11/07/2021	SSE	26	14:15	W	6	SSE	13
12/07/2021	N	22	15:32	NW	7	NNE	9
13/07/2021	NNW	20	11:25	Calm		NW	9
14/07/2021	N	20	17:46	Calm		Calm	
15/07/2021	NNW	22	10:55	N	4	NW	9
16/07/2021	WNW	63	12:45	NNW	13	WNW	30
17/07/2021	WNW	61	13:12	NW	17	WNW	28
18/07/2021	NW	31	14:11	NW	4	WSW	15
19/07/2021	NW	28	12:48	NW	7	W	7
20/07/2021	WNW	39	12:28	NW	7	NW	19
21/07/2021	SSW	41	10:51	WSW	17	S	15
22/07/2021	N	24	14:42	WNW	9	N	11
23/07/2021	NW	31	5:02	Calm		Calm	
24/07/2021	NW	48	13:33	W	4	WNW	22
25/07/2021	WNW	50	3:26	WNW	22	WNW	24

Notes:

Blue text indicates a rain event greater than 1mm of rain.
The orange text indicates a rain event greater than the 80th percentile of 25.8mm, and a wind speed of greater than 25km/hr
Red text indicates a rain event greater than the 85th percentile of 33.1mm, and a wind speed greater than 50km/hr.
* Data was unavailable.

A-2 Noise and Vibration Monitoring Results

Table A-2-1 Noise Monitoring Results

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	NML (dBA)	Predicted (dBA)	Additional Mitigation Measures	LAmax	Recorded $L_{eq, 15min}$ (dBA)	Exceedance of Predicted (dBA)	Exceedance of Predicted	Comments
26/06/2021	1:32	OOHW Period 2	Pavement removal	George Street Intersection	Meriton – 330 Church Street	48	53	PN, V, RP, DR	68.2	47.8	-5.2	No	Construction noise sometimes audible. Construction noise was not dominant noise source – idling truck nearby, flagpole banging in wind, generator running during monitoring period.
26/06/2021	1:53	OOHW Period 2	Pavement removal	George Street Intersection	Meriton – 330 Church Street	48	53	PN, V, RP, DR, RO	68.4	47.7	-5.3	No	Construction noise sometimes audible. Construction noise was not dominant noise source – sporadic banging of asphalt, flagpole banging in wind, pedestrians walking by during monitoring period.
12/07/2021	22:34	OOHW Period 2	Pavement cutting, truck movements	Eat Street	Meriton – Bay Vista	48	68	-	66.3	50.9	-17.1	No	Construction noise clearly audible.
12/07/2021	23:30	OOHW Period 2	James Ruse Drive Bridge super T installation	Tramway Avenue	246 George Street	39	53	-	70.0	46.2	-6.8	No	Construction noise audible at most times, construction noise clearly audible.
15/07/2021	9:00	Standard Hours	Ballast tamping	South of Carlingford Stop	13 Lloyds Avenue	62	87	-	90.1	65.5	-9.5	No	Construction noise is dominant noise source.
26/06/2020 - ongoing	Continuous monitoring		Construction works	Hawkesbury Road works	Westmead Institute for Medical Research (Sleep Lab)	65	*	*	*	*	*	No	Activities are reviewed in response to exceedance alerts. Where the exceedance is attributed to construction, a review is undertaken of works and plant/equipment or methodology is modified where necessary. No exceedances were attributed to Parramatta Connect construction activities. Continuous monitoring values are available on request.
26/06/2020 - ongoing	Continuous monitoring		Construction works	Hawkesbury Road works	Westmead Institute for Medical Research (Brain Dynamics Centre)	65	*	*	*	*	*	No	
26/06/2020 - ongoing	Continuous monitoring		Construction works	Hawkesbury Road works	Children's Medical Research Institute (Microscopy Labs)	65	*	*	*	*	*	No	
26/06/2020 - ongoing	Continuous monitoring		Construction works	Cumberland Hospital	Cumberland Hospital (Clinical psychology rooms)	55	*	*	*	*	*	No	

[1]Sound Pressure Level (SPL) used instead of NML

Notes:

Standard hours:

a) All areas excluding Eat Street and Camellia – Monday to Friday 7:00 am to 7:00 pm. Saturday 8:00 am to 6:00 pm

b) Eat Street (Church Street between Palmer Street and George Street) – Monday to Friday 7:00 am to 6:00 pm. Saturday 8:00 am to 12:00 pm)

c) Camellia, Rosehill and Rydalmere (east of James Ruse Drive to Victoria Road) – 24 hours a day and seven days a week provided that sensitive receivers are not affected by noise levels of greater than 5 dBA above the rating background level at any residence

OOHW Period 1 is defined as:

a) 6:00pm to 10:00pm (evenings) Monday to Saturday

b) 7:00am to 8:00am and 1:00pm to 10:00pm (day & evening) Saturday and

c) 8:00am to 6:00pm Sunday and public holidays (days).

OOHW Period 2 is defined as:

a) 10:00pm to 7:00am (nights) Monday to Saturday and
6:00pm to 8:00am (nights) Sundays and public holidays.

Additional Mitigation Measures
PN = Project Notification
V = Verification Monitoring
RP = Respite Period
AA = Alternate Accommodation
SN = Specific Notification / individual briefing or phone call
DR = Duration Reduction
RO = Project Specific Respite Offer

Table A-2-2 Vibration Monitoring Results

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	Trigger Value (mm/s)	95th Percentile PPV (mm/s)	Maximum PPV (mm/s)	Exceedance of Target	Construction Vibration Exceedance	Comments
26/06/2020	Continuous monitoring		Hawkesbury Road works	Hawkesbury Road	Westmead Institute for Medical Research (HAL incubators)	0.1 mm/s	*		No	No	Activities are reviewed in response to exceedance alerts. Where the exceedance is attributed to construction, a review is undertaken of works and plant/equipment or methodology is modified where necessary. No exceedances were attributed to PLR construction activities. Continuous monitoring values are available on request.
26/06/2020	Continuous monitoring		Hawkesbury Road works	Hawkesbury Road	Westmead Institute for Medical Research (Microscopy Labs)	0.1 mm/s	*		No	No	
26/06/2020	Continuous monitoring		Hawkesbury Road works	Hawkesbury Road	Children's Medical Research Institute (Microscopy Labs)	0.1 mm/s	*		No	No	

A-3 Water Sampling and Discharge Results

Table A-3-1 Water Quality Monitoring - Comments and observations

Location	Waterway	Upstream/ Downstream of Works	Type[3]	Date	Time	pH 5.5-8.5[2]	Elec. Conduct. (µS/cm) LR[1]: 125–2200[2] E: None	Turbidity (NTU) 6-50[2]	Comments and Observations
-	-	-	-	-	-	-	-	-	-

1. ANZECC Waterway types: Fresh water (PR1, PR2, PR3, PR4, VY1 and VY2); E: Estuarine (CC1, CC2, AC1, AC2, PR5, PR6 and SC1).
2. Trigger values were established by Parramatta Connect within the Pre-Construction Sampling (Baseline Review) Water Quality Monitoring Report (PLR1INF-CPBD-ALL-WA-RPT-000003). Red text indicates values outside of the baseline trigger values.
3. Charles Street Weir separates Parramatta River from up and downstream.

Table A-3-2 Discharge Water Quality

Discharge monitoring Point ID	Type of Monitoring Point	Type of Discharge Point	Date	Discharge Permit #	Oil and Grease (Not visible)	pH (6.5 - 8.5)	Turbidity (NTU)	Comments
A1.43, A1.44	Basins and settling containers	Stormwater inlet, Vac Truck	7/05/2021	DW-A1-049	Not visible	7.1	0	Discharge to stormwater 1.43, 1.44
N/A	Basins and settling containers	Re-use	2/07/2021	DW-A1-050	Not visible	8	0	Reused for dust suppression
N/A	Basins and settling containers	Re-use	2/07/2021	DW-A1-051	Not visible	8.4	0	Reused for dust suppression
A3.3	Basins and settling containers	Creek	6/07/2021	DW-A3-038	Not visible	8.49	20.2	Discharge into watercourse/creek
N/A	Basins and settling containers	Re-use	12/07/2021	DW-A1-053	Not visible	8.1	10	Reused for dust suppression
N/A	Basins and settling containers	Re-use	14/07/2021	DW-A1-054	Not visible	8.1	10	Reused for dust suppression
N/A	Basins and settling containers	Re-use	16/07/2021	DW-A1-055	Not visible	8.1	10	Reused for dust suppression

A-4 Air Quality Monitoring Results

Table A-4-1 Summary of Dust Deposition Data (Ash Content)

Date	Monitoring Location	Ash Content g/m^2/month	Total Insoluble Matter (g/m^2/month)
June	13a Grand Avenue	7	8
June	Rydalmere Station	1	1.2
June	Dundas Station	3.5	4.2
June	Telopea	0.5	0.8
June	Carlingford	0.7	1

Red text indicates exceedance of the ash content trigger value 4.0 g/m^2/month.

Table A-4-2 Summary of Asbestos Fibre Monitoring

Report Number	Date	Location	Start time	End time	Result (Fibres/Fields)	Result (Fibres/mL)
AMR286	28-Jun	GRAND AVE STOCKPILE AREA, CARPARK AREA	7:25	15:10	0/100	<0.01
AMR286	28-Jun	GRAND AVE STOCKPILE AREA, EASTERN BOUNDARY	7:27	15:12	0/100	<0.01
AMR286	28-Jun	GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY	7:31	15:14	0/100	<0.01
AMR286	28-Jun	GRAND AVE STOCKPILE AREA, NORTHERN BOUNDARY	7:32	15:15	0/100	<0.01
AMR286	28-Jun	GATE ACCES 13A,SDC WORK AREA, NORTHERN BOUNDARY FENCE	7:45	14:45	0/100	<0.01
AMR286	28-Jun	GATE ACCES 13A,SDC WORK AREA, SOUTHERN BOUNDARY FENCE	7:46	14:48	0/100	<0.01
AMR286	28-Jun	GATE ACCES 13A,SDC WORK AREA, EASTERN BOUNDARY FENC	7:47	14:32	0/100	<0.01
AMR287	29-Jun	GRAND AVE STOCKPILE, CARPARK	7:20	15:02	0/100	<0.01
AMR287	29-Jun	GRAND AVE STOCKPILE AREA, EASTERN BOUNDARY FENCE	7:22	15:03	0/100	<0.01
AMR287	29-Jun	GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY FENCE	7:24	15:05	0/100	<0.01
AMR287	29-Jun	GRAND AVE STOCKPILE AREA, NORTHERN BOUNDARY FENCE	7:25	15:07	0/100	<0.01
AMR287	29-Jun	CAMELIA JUNCTION, NORTHERN BOUNDARY FENCE	8:31	15:10	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, NORTH EAST BOUNDARY FENCE LINE	7:30	11:12	0/100	<0.01

AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, SOUTH EAST BOUNDARY FENCE LINE	7:32	11:13	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, SOUTH BOUNDARY FENCING	7:33	11:14	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, WEST BOUNDARY FENCING	7:34	11:16	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, NORTH EAST BOUNDARY FENCE LINE	11:15	15:01	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, SOUTH EAST BOUNDARY FENCE LINE	11:17	15:03	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, SOUTH BOUNDARY FENCING	11:18	15:04	0/100	<0.01
AMR288	29-Jun	TRAMWAY (ALFRED ST), EXCAVATION SITE, WEST BOUNDARY FENCING	11:20	15:06	0/100	<0.01
AMR288	30-Jun	OVERPASS AREA, BOUNDARY FENCING, NORTH WEST CORNE	7:20	15:01	0/100	<0.01
AMR288	30-Jun	OVERPASS AREA, BOUNDARY FENCING, WESTERN SIDE	7:21	15:02	0/100	<0.01
AMR288	30-Jun	OVERPASS AREA, BOUNDARY FENCING ADJACENT OVERPASS	7:22	15:05	0/100	<0.01
AMR288	30-Jun	CAMELLIA JUNCTION, ADJACENT BRIDGE, SOUTH BOUNDARY FENCING	7:25	15:09	0/100	<0.01
AMR288	30-Jun	CAMELLIA JUNCTION, ADJACENT BRIDGE, ATTACHED TO POLE ADJACENT EXCAVATION	7:26	15:11	0/100	<0.01
AMR289	1-Jul	OVERPASS AREA, BOUNDARY FENCE, NORTH EAST	7:10	15:01	0/100	<0.01
AMR289	1-Jul	OVERPASS AREA, BOUNDARY FENCE, WEST	7:12	15:03	0/100	<0.01
AMR289	1-Jul	OVERPASS AREA, BOUNDARY FENCE, SOUTH	7:13	15:05	0/100	<0.01

AMR289	1-Jul	OVERPASS AREA, BOUNDARY FENCE, SOUTH WEST	7:15	15:07	0/100	<0.01
AMR289	1-Jul	SANDOWN LINE, ADJACENT TOILET, NORTH FENCE NEAR ENTRY	7:22	15:09	0/100	<0.01
AMR289	1-Jul	SANDOWN LINE, ADJACENT TOILET, NEAR ENTRY SOUTH FENCE	7:23	15:10	0/100	<0.01
AMR289	1-Jul	CAMELLIA JUNCTION NEAR JAMES RUSE DRIVE BRIDGE, INTENAL FENCING	7:30	15:13	0/100	<0.01
AMR290	2-Jul	(GRAND AVE BRIDGE) NORTH EAST CORNER NEXT TO ENTRANCE GATE	7:01	3:29	1/100	<0.01
AMR290	2-Jul	NORTH WEST CORNER NEXT TO EXIT GATE	7:03	3:28	0/100	<0.01
AMR290	2-Jul	SOUTH EAST CORNER NEXT TO BRIDGE COLLUM	7:09	3:33	0/100	<0.01
AMR290	2-Jul	SOUTH WEST CORNER ON SITE BOUNDARY FENCING	7:06	3:35	2/100	<0.01
AMR290	2-Jul	(JAMES RUSE BRIDGE EASTERN SIDE) NORTH OF EXCAVATION ON FENCING	7:15	3:41	0/100	<0.01
AMR290	2-Jul	(JAMES RUSE BRIDGE EASTERN SIDE) SOUTH OF EXCAVATION HAND RAIL	7:17	3:42	0/100	<0.01
AMR290	2-Jul	(ARTHUR ST COMPOUND) SOUTH SIDE NEAR ENTRANCE GATE	8:10	3:57	0/100	<0.01
AMR290	2-Jul	(ARTHUR ST COMPOUND) NORTH EAST NEXT TO END OF BRIDGE	8:09	3:59	0/100	<0.01
AMR290	2-Jul	(ARTHUR ST COMPOUND) NORTH WEST AT END OF TRACK SLAB	8:12	4:01	1/100	<0.01
AMR290	2-Jul	(ALFRED STREET SP) NORTH WEST AT ENTRANCE GATE	8:45	3:51	0/100	<0.01
AMR290	2-Jul	(ALFRED ST SP) WEST NEST TO ROAD WAY	8:47	3:55	0/100	<0.01
AMR290	2-Jul	(ALFRED ST SP) EAST ON BOUNDARY FENCING	8:40	3:53	0/100	<0.01
AMR291	3-Jul	GRAND AVE STOCKPILE AREA, CARPARK	7:05	14:55	0/100	<0.01
AMR291	3-Jul	GRAND AVE STOCKPILE AREA, EASTERN BOUNDARY FENCE	7:07	14:57	0/100	<0.01

AMR291	3-Jul	GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY FENCE	7:09	15:02	0/100	<0.01
AMR291	3-Jul	GRAND AVE STOCKPILE AREA, CARPARK	7:11	15:02	0/100	<0.01
AMR292	3-Jul	ARTHUR ST COMPOUND, ENTRY GATE	7:20	14:22	0/100	<0.01
AMR292	3-Jul	ARTHUR ST COMPOUND, NORTHERN BOUNDARY FENCE	7:21	14:25	0/100	<0.01
AMR292	3-Jul	ARTHUR ST COMPOUND, SOUTH WESTERN BOUNDARY FENCE	7:23	14:28	0/100	<0.01
AMR292	3-Jul	ALFRED ST COMPOUND, NORTHERN BOUNDARY FENCE	7:33	14:35	0/100	<0.01
AMR292	3-Jul	ALFRED ST COMPOUND, WESTERN BOUNDARY FENCE	7:35	14:37	0/100	<0.01
AMR292	3-Jul	ALFRED ST COMPOUND, SOUTHERN BOUNDARY FENCE	7:37	14:42	0/100	<0.01
AMR293	5-Jul	GRAND AVE, STOCKPILE AREA, CARPARK	7:10	14:45	0/100	<0.01
AMR293	5-Jul	GRAND AVE, STOCKPILE AREA, EASTERN BOUNDARY	7:11	14:47	0/100	<0.01
AMR293	5-Jul	GRAND AVE, STOCKPILE AREA, NORTH EASTREN BOUNDARY	7:12	14:49	0/100	<0.01
AMR293	5-Jul	GRAND AVE, STOCKPILE AREA, NORTH WESTERN BOUNDARY	7:14	14:52	0/100	<0.01
AMR294	5-Jul	ALFRED ST COMPOUND, NORTHERN BOUNDARY FENCE	7:28	15:01	0/100	<0.01
AMR294	5-Jul	ALFRED ST COMPOUND, WESTERN BOUNDARY FENCE	7:30	15:03	0/100	<0.01
AMR294	5-Jul	ALFRED ST COMPOUND, SOUTHERN BOUNDARY FENCE	7:32	15:05	0/100	<0.01
AMR295	6-Jul	GRAND AVE STOCKPILE AREA, STAFF CARPARK	7:05	15:02	0/100	<0.01
AMR295	6-Jul	GRAND AVE STOCKPILE AREA, EASTERN BOUNDARY FENCE	7:07	15:05	0/100	<0.01
AMR295	6-Jul	GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY FENCE	7:10	15:07	0/100	<0.01
AMR295	6-Jul	GRAND AVE STOCKPILE AREA, NORTH WESTERN BOUNDARY FENCE	7:12	15:10	0/100	<0.01
AMR296	6-Jul	ALFRED ST COMPOUND, NORTHERN BOUNDARY FENCE	7:32	14:55	0/100	<0.01
AMR296	6-Jul	ALFRED ST COMPOUND, WESTERN BOUNDARY FENCE	7:34	14:57	0/100	<0.01

AMR296	6-Jul	ALFRED ST COMPOUND, SOUTHERN BOUNDARY FENCE	7:36	14:58	0/100	<0.01
AMR296	6-Jul	ALFRED ST COMPOUND, WASHING AREA	7:38	15:00	0/100	<0.01
AMR297	7-Jul	GRAND AVE STOCKPILE AREA, CARPARK	7:05	15:05	0/100	<0.01
AMR297	7-Jul	GRAND AVE STOCKPILE AREA, EASTERN BOUNDARY FENCE	7:07	15:07	0/100	<0.01
AMR297	7-Jul	GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY FENCE	7:09	15:11	0/100	<0.01
AMR297	7-Jul	GRAND AVE STOCKPILE AREA, NORTH WESTERN BOUNDARY FENCE	7:11	15:12	0/100	<0.01
AMR298	7-Jul	ALFRED ST, COMPOUND NORTHERN BOUNDARY FENCE	7:28	14:55	0/100	<0.01
AMR298	7-Jul	ALFRED ST, COMPOUND WESTERN BOUNDARY FENCE	7:30	14:57	0/100	<0.01
AMR298	7-Jul	ALFRED ST, COMPOUND SOUTHERN BOUNDARY FENCE	7:32	14:58	0/100	<0.01
AMR298	7-Jul	ALFRED ST, COMPOUND EASTERN BOUNDARY FENCE	7:35	15:00	0/100	<0.01
AMR299	8-Jul	GRAND AVE STOCKPILE AREA, CARPARK	7:20	15:02	0/100	<0.01
AMR299	8-Jul	GRAND AVE STOCKPILE AREA, EASTERN BOUNDARY	7:22	15:03	0/100	<0.01
AMR299	8-Jul	GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY	7:24	15:07	0/100	<0.01
AMR299	8-Jul	GRAND AVE STOCKPILE AREA, NORTH WESTERN BOUNDARY	7:25	15:09	0/100	<0.01
AMR299	8-Jul	SAND DOWN LANE, CENTRAL, EASTERN BOUNDARY FENCE	7:40	14:55	0/100	<0.01
AMR299	8-Jul	SAND DOWN LANE, CENTRAL, WESTERN BOUNDARY FENCE	7:42	14:57	0/100	<0.01
AMR299	8-Jul	CAMELIA JUNCTION, CENTRAL ATTACHED TO TEMPERORY FENCING	8:23	15:12	0/100	<0.01
AMR299	8-Jul	CAMELIA JUNCTION, NORTH EASTERN BOUNDARY FENCE	8:40	15:15	0/100	<0.01
AMR299	8-Jul	ACCESS GATE 22, ENTRANCE ATTACHED TO FENCING	9:15	15:18	0/100	<0.01

AMR299	8-Jul	ACCESS GATE 22, PLACED IN EXCAVATOR CABIN, REGO NO. 06832E	9:17	15:20	0/100	<0.01
AMR300	9-Jul	CAMELLIA JUNCTION- SOUTH BOUNDARY	7:15	15:10	0/100	<0.01
AMR300	9-Jul	CAMELLIA JUNCTION- SE BOUNDARY	7:16	15:11	0/100	<0.01
AMR300	9-Jul	CAMELLIA JUNCTION- EAST BOUNDARY, SOUTH END	7:17	15:12	0/100	<0.01
AMR300	9-Jul	CAMELLIA JUNCTION- EAST BOUNDARY, NORTH END	7:18	15:13	0/100	<0.01
AMR300	9-Jul	GRAND AVE STOCKPILE AREA- EAST GATE	7:23	15:18	0/100	<0.01
AMR300	9-Jul	GRAND AVE STOCKPILE AREA- WEST GATE	7:24	15:19	0/100	<0.01
AMR300	9-Jul	GRAND AVE STOCKPILE AREA- NW BOUNDARY	7:25	15:20	0/100	<0.01
AMR300	9-Jul	GRAND AVE STOCKPILE AREA- WEST BOUNDARY	7:26	15:21	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION STOCKPILE AREA- SW OF HV TRENCHING	7:20	11:30	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION STOCKPILE AREA- SE OF HV TRENCHING	7:22	11:31	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION STOCKPILE AREA- EAST OF HV TRENCHING	7:24	11:32	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION STOCKPILE AREA- NORTH OF HV TRENCHING	7:29	11:35	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION BASE OF JRD RAMP-NORTH OF EXCAVATION	7:34	11:40	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION BASE OF JRD RAMP-EAST OF EXCAVATION	7:36	11:42	0/100	<0.01

AMR301	10-Jul	CAMELIA JUNCTION BASE OF JRD RAMP-SE OF EXCAVATION	7:39	11:43	0/100	<0.01
AMR301	10-Jul	CAMELIA JUNCTION BASE OF JRD RAMP-SW OF EXCAVATION	7:40	11:45	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, EASTERN PEDESTRIAN ACCESS, FENCING BOUNDARY	7:10	14:45	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, VEHICLE ACCESS GATE	7:12	14:48	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, FIRST AID UNIT	7:14	14:50	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, SDC WORK AREA, ADJACENT PEDESTRIAN ACCESS	7:20	14:52	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, GRAND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY	7:22	14:55	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, SDC WORK AREA, NORTH WESTERN BOUNDARY	7:24	14:56	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION, GRAND AVE STOCKPILE AREA, NORTHERN BOUNDARY	7:45	14:59	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION TO JAMES HARDIE RAMP, CENTRAL ACCESS GATE, WESTERN BOUNDARY	8:45	14:05	0/100	<0.01
AMR302	12-Jul	CAMELIA JUNCTION TO JAMES HARDIE RAMP, CENTRAL ACCESS GATE, EASTERN BOUNDARY	8:47	15:10	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, ACCESS GATE 22	7:28	14:45	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, CENTRAL ACCESS GATE, WESTERN BOUNDARY	7:33	14:48	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, CENTRAL ACCESS GATE, EASTERN BOUNDARY	7:34	14:50	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, SDC WORK AREA, NORTHERN BOUNDARY	7:45	15:02	0/100	<0.01

AMR303	13-Jul	CAMELIA JUNCTION, SDC WORK AREA, NORTHERN BOUNDARY	7:46	15:05	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, SDC WORK AREA, WESTERN BOUNDARY	7:48	15:10	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, SDC WORK AREA, EASTERN BOUNDARY	9:03	15:15	0/100	<0.01
AMR303	13-Jul	CAMELIA JUNCTION, VEHICLE ACCESS GATE	9:04	15:17	0/100	<0.01
AMR304	13-Jul	ALFRED ST, COMPOUND, EXCAVATION AREA, EAST BOUNDARY FENCE	7:15	14:30	0/100	<0.01
AMR304	13-Jul	ALFRED ST, COMPOUND, EXCAVATION AREA, SOUTH EAST BOUNDARY FENCE	7:17	14:31	0/100	<0.01
AMR304	13-Jul	ALFRED ST, COMPOUND, EXCAVATION AREA, SOUTH WEST CORNER	7:19	14:33	0/100	<0.01
AMR304	13-Jul	ALFRED ST, COMPOUND, EXCAVATION AREA,WEST BOUNDARY FENCE	7:21	14:35	0/100	<0.01
AMR305	13-Jul	ROSS X CHURCH N CORNER	11:12	15:45	0/100	<0.01
AMR305	13-Jul	ROSS X CHURCH S CORNER	11:13	15:50	0/100	<0.01
AMR305	13-Jul	ROSS ST NEAR DRAINAGE LINE	11:10	15:43	0/100	<0.01
AMR306	14-Jul	GARND AVE STOCKPILE AREA, NORTH WESTERN BOUNDARY	7:24	15:02	0/100	<0.01
AMR306	14-Jul	GARND AVE STOCKPILE AREA, SOUTHERN BOUNDARY	7:26	15:05	0/100	<0.01
AMR306	14-Jul	GARND AVE STOCKPILE AREA, NORTHERN BOUNDARY	7:29	15:07	0/100	<0.01
AMR306	14-Jul	GARND AVE STOCKPILE AREA, NORTH EASTERN BOUNDARY	7:31	15:10	0/100	<0.01

AMR306	14-Jul	CAMELIA JUNCTION, SDC WORK AREA, ADJACENT PEDESTRIAN ACCESS	7:33	15:12	0/100	<0.01
AMR306	14-Jul	CAMELIA JUNCTION, SDC WORK AREA, WESTERN SIDE FENCING BOUNDARY	7:37	15:15	0/100	<0.01
AMR306	14-Jul	CAMELIA JUNCTION, EASTERN BOUNDARY FENCE	7:40	15:20	0/100	<0.01
AMR307	15-Jul	GRAND AVE BRIDGE AREA, NORTH EASTERN CAR PARK	7:10	15:05	0/100	<0.01
AMR307	15-Jul	GRAND AVE BRIDGE AREA, NORTH EASTERN BOUNDARY	7:12	15:07	0/100	<0.01
AMR307	15-Jul	GRAND AVE BRIDGE AREA, NORTH WESTERN BOUNDARY	7:14	15:10	0/100	<0.01
AMR307	15-Jul	GRAND AVE BRIDGE AREA, WESTERN BOUNDARY	7:16	15:15	0/100	<0.01
AMR307	15-Jul	CAMELIA JUNCTION, CENTRAL	7:19	15:17	0/100	<0.01
AMR307	15-Jul	CAMELIA JUNCTION ADJACENT EASTERN PEDESTRIAN ACCESS	7:20	15:19	0/100	<0.01
AMR307	15-Jul	SAND DOWN LANE, ADJACENT SITE SHED, WESTERN FENCE BOUNDARY	7:30	14:02	0/100	<0.01
AMR307	15-Jul	SAND DOWN LANE, ADJACENT SITE SHED, EASTERN FENCE BOUNDARY	7:32	14:10	0/100	<0.01
AMR308	16-Jul	GRAND AVE STOCK PILE AREA- EAST GATE	7:08	14:30	0/100	<0.01
AMR308	16-Jul	GRAND AVE STOCK PILE AREA- WEST GATE	7:09	14:32	0/100	<0.01
AMR308	16-Jul	GRAND AVE STOCK PILE AREA- NW BOUNDARY	7:10	14:34	0/100	<0.01
AMR308	16-Jul	GRAND AVE STOCK PILE AREA- WEST BOUNDARY	7:12	14:36	0/100	<0.01
AMR308	16-Jul	CAMELLIA JUNCTION- SOUTH BOUNDARY	7:15	14:38	0/100	<0.01

AMR308	16-Jul	CAMELLIA JUNCTION- SE CORNER	7:16	14:40	0/100	<0.01
AMR308	16-Jul	CAMELLIA JUNCTION- EAST BOUNDARY	7:17	14:42	0/100	<0.01
AMR309	17-Jul	OVER PASS AREA, NORTH EAST BOUNDARY FENCE	7:01	12:47	0/100	<0.01
AMR309	17-Jul	OVER PASS AREA, SOUTH EAST BOUNDARY FENCE	7:02	12:49	0/100	<0.01
AMR309	17-Jul	OVER PASS AREA, SOUTH WEST BOUNDARY FENCE	7:03	12:52	0/100	<0.01
AMR309	17-Jul	OVER PASS AREA, NORTH WEST BOUNDARY FENCE	7:04	12:54	0/100	<0.01
AMR310	28-Jun	COMPOUND EAST BOUNDARY	7:35	15:10	0/100	<0.01
AMR310	28-Jun	COMPOUND SOUTH BOUNDARY	7:36	15:11	0/100	<0.01
AMR310	28-Jun	COMPOUND WEST BOUNDARY	7:37	15:12	0/100	<0.01
AMR310	28-Jun	COMPOUND ENTRY GATE	7:38	15:13	0/100	<0.01