EPL 21595
Pollution Monitoring Report
April 2023
M12 Motorway West

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Document Approval

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Signature:					

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1 Introduction

1.1 Background

Western Sydney's population is anticipated to increase from 2.5 million in 2021 to 3 million by 2036, which is an average of 46,000 additional residents per year. This strong forecast growth is driven by a number of transformational changes in the region, including the Western Sydney International Airport (WSIA), South West Growth Area, Western Sydney Employment Area and Western Sydney Aerotropolis. Additional travel demand associated with these planned developments is expected to put significant pressure on the existing transport network and negatively impact traffic efficiency and road safety in the region.

The M12 Motorway will connect The Northern Road at Luddenham and the M7 Motorway at Cecil Hills, over a distance of about 16 km. The M12 Motorway project will provide the main access from the WSIA at Badgerys Creek to Sydney's motorway network and must be opened to traffic six months before the opening of the WSIA.

The M12 Motorway will provide the capacity to meet traffic demand generated by Western Sydney urban development, provide a high standard connection to WSIA to meet future freight and passenger needs and will support and integrate with the broader transport network. The M12 Motorway Project objectives include:

- Provide direct access from the M7 Motorway to the planned Western Sydney airport at Badgerys Creek, and from the M4 via The Northern Road.
- Provide sufficient road capacity to meet traffic demand generated by the planned Western Sydney urban development.
- Provide a road which supports and integrates with the broader transport network.
- Support the provision of an integrated regional and local public transport system.
- Provide active local transport within the east-west corridor.

Approval for the Project under the EP&A Act was granted by the Minister for Planning on 23 April 2021. Approval for the Project under the EPBC Act was granted by the Federal Minister for the Environment on 3 June 2021. The project must be carried out in accordance with the terms of the NSW and Federal Approvals.

2 Project Details

2.1 M12 Motorway West Project Details

The M12 Motorway West Project involves construction of a new approximately 6km of dual carriageway motorway predominantly through greenfield area between The Northern Road, Luddenham and approximately 250m east of Badgerys Creek, including WSIA Interchange and Elizabeth Drive Interchange. The works are within the Liverpool and Penrith City Councils (Council) local government areas (LGA).

Features of these Works include:

- Construction of 6km of dual carriageway motorway predominantly through greenfield area between The Northern Road, Luddenham and approximately 250m east of Badgerys Creek.
- Construction of 11 bridges.
- A grade-separated interchange referred to as the Western Sydney International Airport interchange, including a dual-carriageway four-lane airport access road (two lanes in each direction for about 1.5 kilometres) connecting with the Western Sydney International Airport Main Access Road.
- Connection to the signalised at grade intersection at The Northern Road with provision for grade separation in the future as part of the future Outer Sydney Orbital.
- Realignment and duplication of approximately 1,500m of Elizabeth Drive with a new bridge over the Airport Access Road and Metro Rail corridor including associated utility adjustments.
- A four-way signalised intersection east of Airport Access Road.

- A left-in/left-out intersection west of Airport Access Road.
- A signalised single point interchange with north facing ramps from Elizabeth Drive to M12 and south facing ramps from Elizabeth Drive to Airport Access Road.

Activities included in the Works:

- site establishment
- control of traffic including the provision of approved Traffic Management Plans to facilitate the construction of the works
- provision for pedestrians and cyclists
- provision of site accommodation for the Principal
- searching for and protecting public utility services
- maintenance of the existing roadways
- drainage works (both surface and subsurface)
- permanent and temporary erosion and sedimentation controls
- removal and disposal of some existing roads, kerbs, gutters, footpaths, stormwater and other minor structures
- demolition of structures including houses and sheds
- earthworks including clearing and grubbing, removal and stockpiling of topsoil, excavation of cuttings, placing of general fill, management of potentially/ actually contaminated materials, possible off-Site disposal of spoil material, foundation treatments, placement of upper zone material and Selected Material Zone using imported materials
- construction of rigid pavements including lean-mix concrete sub-base, continuously reinforced concrete pavement, dense grade asphalt intermediate and wearing courses
- flexible sub-base and base pavements
- ancillary works, including new kerbs and/or gutters and paving of cycleways/footpaths
- construction of bridges
  - Bridge over Luddenham Road (BR01)
  - Bridge over Cosgroves Creek (BR02)
  - Bridge over Airport Access Road (AAR) on Elizabeth Drive (BR04A)
  - Bridge over Sydney Metro on Elizabeth Drive (BR04B)
  - Bridge over Western Sydney Airport (WSA) Channel on Northbound Off Ramp (BR04C)
  - Bridge over WSA Channel on Southbound On Ramp (BR04D)
  - Twin Bridges over Badgerys Creek (BR05)
  - Bridge over M12 Motorway and Airport Access Road Ramps (BR21)
  - Bridge over M12 (BR22)
  - Bridge over M12 Motorway on ramp (BR24)
- construction of a RCBC as a stock underpass
- construction of precast arch structures as a shared use path underpass
- construction of retaining walls
- construction of reinforced soil walls
- design development and installation of pits and conduits for an underground Intelligent Transport System cableway including supply and installation of Closed-Circuit Television Cameras , Electronic Message Signs , Emergency Telephones, Vehicle Detection Sites and Permanent Automatic Weather Stations
- relocation of existing and installation of new (or upgraded) public utilities
- property access and property adjustments
- Road furniture
- pavement marking and raised pavement markers

- signposting including sign structures
- opening to traffic
- revegetation and landscaping of exposed new works and of areas disturbed by construction activities
- clean up and restoration of work areas and the areas disturbed by utility authorities in carrying out adjustments within the Site
- preparation of “work-as-executed” drawings and asset acceptance documentation
- all other work which CPBGG JV are obliged to undertake by the terms of the Contract.

CPB Contractors Pty Limited and Georgiou Group Joint Venture (CPBGG JV) were engaged by Transport for New South Wales (TfNSW) to construct the M12 Motorway West Package.

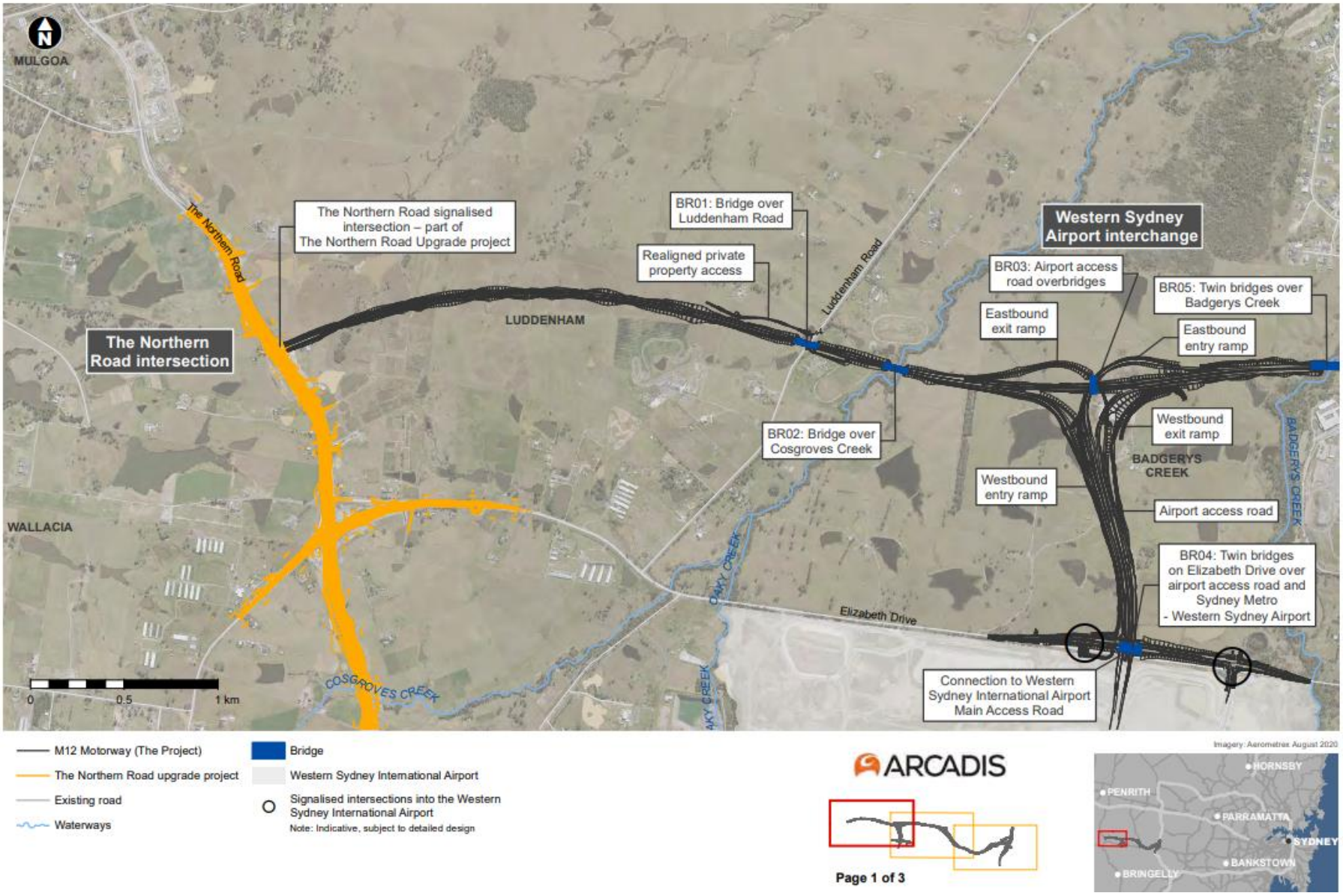

Figure 2-1 Keys features of the M12 Motorway West Project

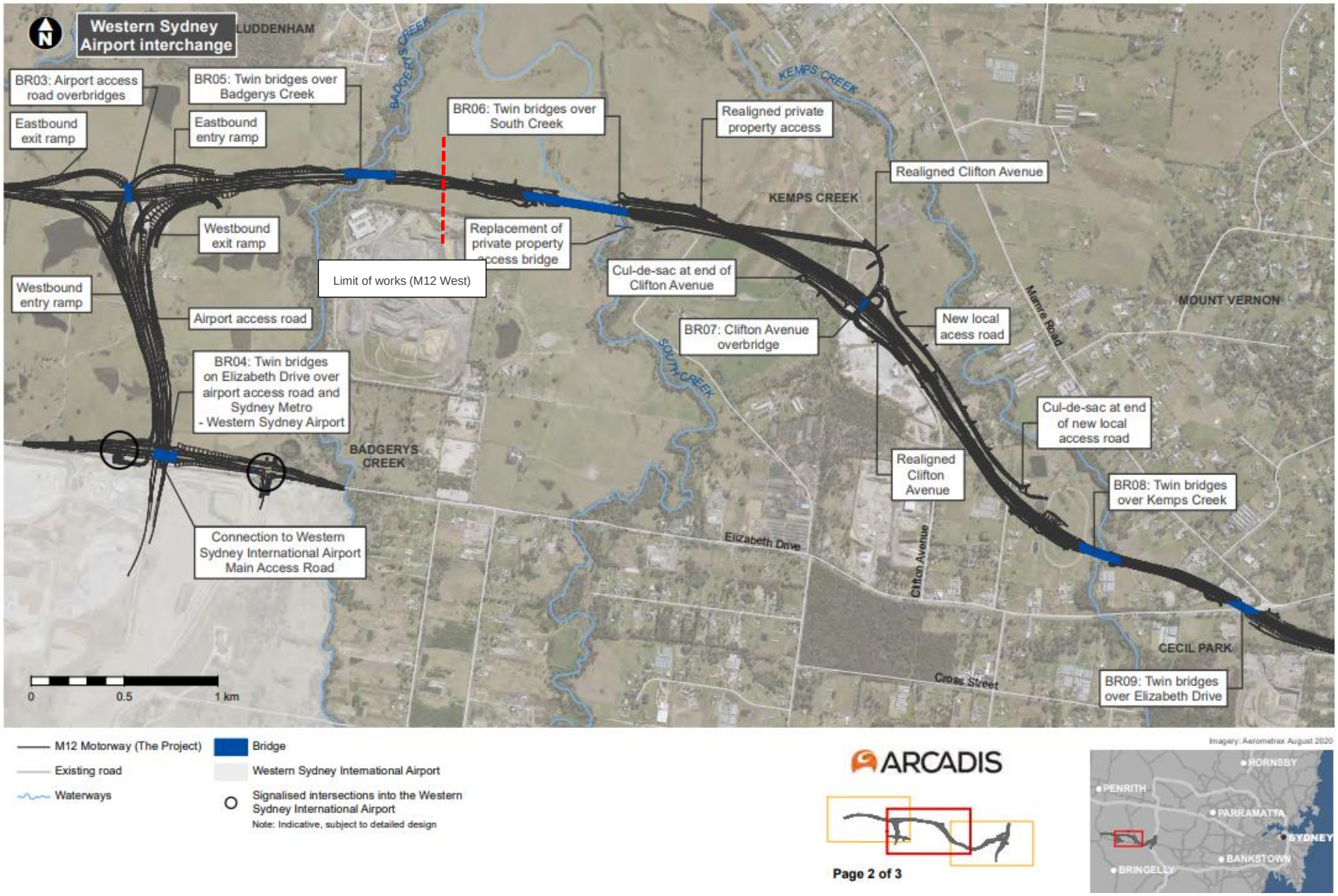

Figure 2-2 Keys features of the M12 Motorway West Project

3 Scope of this Report

Transport for New South Wales (TfNSW) were issued an Environmental Protection Licence (EPL21595) from the NSW Environment Protection Authority (EPA) on 21 March 2021 under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) for the M12 Motorway West package. This EPL was transferred to CPB Contractors Pty Limited on 17 June 2022.

The EPL applies to the works approved under the Infrastructure Approval SSI-9364 associated with the delivery of the M12 Motorway project.

This EPL Pollution Monitoring Report provides the results of all pollution monitoring required to be measured or monitored by the licensee of EPL 21595 as required by Section 66 of the *Protection of the Environment Operations Act 1997* (POEO Act) and with reference to EPA Publication Requirements for publishing pollution monitoring data (Environment Protection Authority, 2013).

Table 3-1 provides a summary of the pollution monitoring requirements of EPL 21595.

Table 3-1 Licence Details

Licence Details	
Number	21595
Copy of Licence	https://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=257133&SYSUID=1&LICID=21595
Anniversary Date	21 March
Licensee	CPB Contractors Pty Ltd
Premises	The M12 Motorway Project – West Package, Elizabeth Drive, Penrith NSW 2740
Scheduled Activity	Road Construction (>=50,000T & road to be constructed <10km)

4 Reporting Requirements

Under the POEO Act, holders of environment protection licences (licensees) must publish or make pollution monitoring data available to members of the public.

The POEO Act Section 66 requires:

"66 Conditions requiring monitoring, certification or provision of information, and related offences

(1) Monitoring The conditions of a licence may require—

(a) monitoring by the holder of the licence of the activity or work authorised, required or controlled by the licence, including with respect to—

(i) the operation or maintenance of premises or plant, and

(ii) discharges from premises, and

(iii) relevant ambient conditions prevailing on or outside premises,

and

(iv) anything required by the conditions of the licence, and

(b) the provision and maintenance of appropriate measuring and recording devices for the purposes of that monitoring, and

(c) the analysis, reporting and retention of monitoring data.

(2) False or misleading information A holder of a licence who supplies information, or on whose behalf information is supplied, to the appropriate regulatory authority under the conditions of the licence is guilty of an offence if the information is false or misleading in a material respect."

The primary objective of the pollution monitoring reporting requirements is that members of the public have access to the results of all pollution monitoring (which a licence specifies must be carried out) in a way that is meaningful to them. Data for the M12 Motorway West Works is presented on a monthly sampling period.

The monitoring data that must be published and/or made available on request is any data that is obtained as a result of a monitoring condition on a licence that relates to air, water (surface or groundwater), noise and/or land pollution. The data to be published or provided is limited to data that relates to pollutants generated, discharged or emitted from the licensed premises.

The data is provided in tabular format that is easy for the general public to understand. Tables definitively display raw data values, while graphs and charts are useful for overviews and visualisation of long-term trends. Raw data will be provided upon request.

An upfront note will be included on the licensee's website or in this report to explain why any data may appear to be missing because there is no discharge or the level of pollutant being below the detection level of the measurement instrument.

It's possible from time to time that incorrect data may get published in good faith. As soon as practicable after the licensee becomes aware that the published pollution monitoring data is incorrect or misleading, licensees must then publish a correction log to correct this data that is incorrect or misleading (refer to Section 6).

Table 4-1 provides a summary of the pollution monitoring requirements of EPL 21595

Table 4-1 EPL 21595 Pollution Monitoring Requirements

EPL Condition	Requirement	Report Reference
M5.1	Monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either the project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology.	Section 5.1 Appendix A1
L5.6	Monitoring to validate the noise predictions for works undertaken outside of the standard construction hours as per the construction noise impact assessment	Section 5.2 Appendix A2

EPL Condition	Requirement	Report Reference
M2.2	Discharge of pollutants to water from nominated discharge points	Section 0 Appendix A3
M4.4	Noise and vibration monitoring as directed by an authorised officer of the EPA	Section 5.2 AppendixA2
M7.6	Noise and vibration monitoring of noise and vibration complaints	Section 5.2 AppendixA2
L2.5	Discharge from sediment basins solely as a result of rainfall measured at the premise the rainfall depth value	Section 0 Appendix A3

5 Monitoring

Section 5 presents summaries of the monitoring programs completed in the reporting period from 1st April 2023-1st May 2023.

Detailed monitoring results for each program are presented in the Appendices.

5.1 Weather Monitoring

EPL Condition M 5.1 requires CPB to collect and store meteorological data. Meteorological data is not considered to be pollution data and therefore does not have to be published. However, the meteorological data is published with the pollution monitoring data to provide additional context to the water discharge pollution.

The meteorological observations are based on Badgerys Creek AWS (station 067108) and supported by M12 West AWS observations from 1st April 2023-1st May 2023.

The total rainfall (days with >1mm of rain) for the reporting period:

- April was 80.2 mm with seven (7) rain days

Rainfall between the 29 and 30 of April exceeded the 85th percentile (32.2mm) design rainfall events. Detailed weather observations are presented in Appendix A-1.

A summary of the reporting period's monthly meteorological observations summarised in Table 5-1. A comparison between long term monthly means and recorded values can be found in Figure 5-1 for rainfall.

Table 5-1 Weather Summary and Trigger Weather Events during April 2023 (AWS M12 West)

Weather Event	April 2023
Minimum temperature	7.13°C
Maximum temperature	34.4°C
Total Rainfall	80.2 mm
Number of days with rain (>1mm)	7 days
>25km/hr wind	11 days
>50km/hr wind	0 days

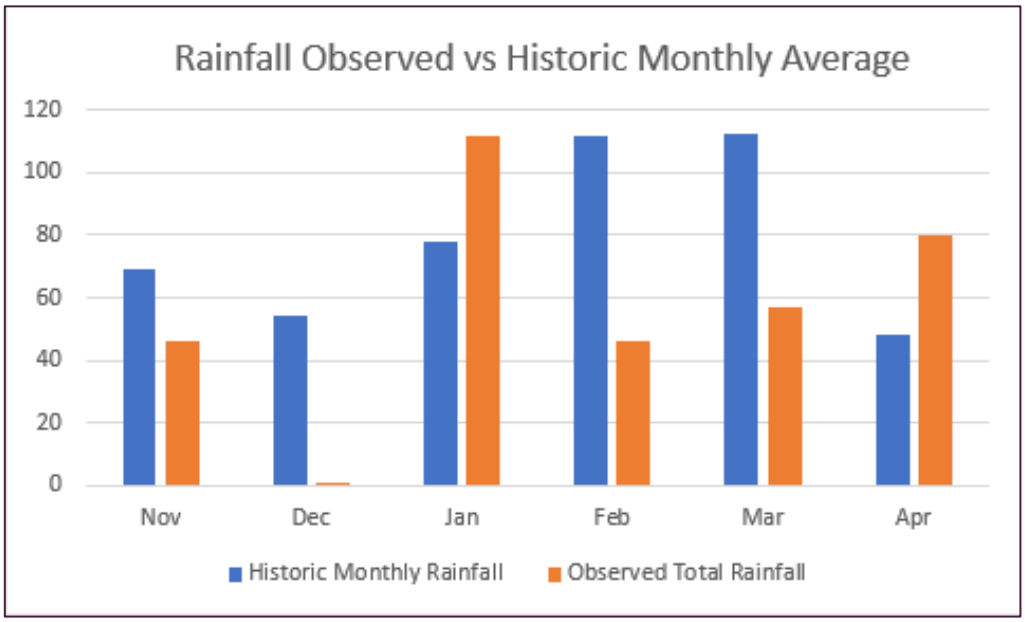

Figure 5-1 Rainfall received compared to historic monthly averages (Source BOM & M12 West AWS)

5.2 Noise and Vibration

No works were undertaken outside of the standard construction hours during the reporting period required noise monitoring to validate noise assessments, in accordance with EPL condition L5.6, as noise predictions were inaudible (<5db above the RBL) at the nearest sensitive receiver.

Noise and vibration monitoring was not directed by an authorized officer of the EPA during the reporting period, in accordance with EPL condition M4.4.

No complaints pertaining to noise or vibration were received during the reporting period to required investigation/ verification monitoring, in accordance with EPL condition M7.6.

Real-time unattended noise monitoring is undertaken during day, evening and night periods via SiteHIVE hexanode locations at main alignment (Luddenham Road) and EDR/AAR (Elizabeth Drive). Noise monitoring results capture a range of activities including utilities/drainage, earthworks, piling and bridge works. No exceedances of the Highly Noise Affected criteria of 75dB(A) or predicted levels occurred during construction within the reporting period.

No attended noise monitoring was conducted during the reporting period as no new plant or activities were completed. provides a summary of noise monitoring events completed between from 1st March 2023-1st May 2023. Detailed noise and vibration monitoring results are presented in Appendix A2.

No attended noise monitoring was conducted during the reporting period as no new plant or activities were completed.

No vibratory compaction activities have occurred within 50m of residential buildings during the reporting period. Nor have any activities occurred within the safe working distances for cosmetic damage.

5.3 Discharge to Water

The EPL discharge criteria apply to the sediment basins referred to in condition P1.3 are the active basins and discharge points identified and located in the document titled "M12 Motorway West Sediment Basins Schedule_3Feb2023" and maintained on electronic file EF21/13233. The active basins and discharge points during the reporting period are summarised in Appendix A3.

Table 5-2 provides a summary of the discharges by CPBGGJV at the current active monitoring/discharge points that complied with condition P1.3. There were a total 30 discharges from these points during the reporting period.

Table 5-3 provides a summary discharge events that occurred solely as a result of rainfall measured at the premises exceeding the design rainfall depth value for the corresponding discharge point. There were two discharge events as a result of rainfall exceeding the design rainfall depth value during the reporting period.

Table 5-2 - Summary of Sediment Basin Discharges during April 2023

Sediment Basin ID	Date tested	Date discharged
Laydown Basin Dewatering	01.04. 2023	01.04. 2023
SB1700 Dewatering	04.04.2023	04.04.2023
SB129 Dewatering	04.04.2023	04.04.2023
SB13800 Dewatering	11.04.2023	11.04.2023
AAR SB Dewatering	12.04.2023	12.04.2023
SB13350W Dewatering	13.04.2023	13.04.2023

Sediment Basin ID	Date tested	Date discharged
SB13825W Dewatering	21.04.2023	21.04.2023
SB12100E Dewatering	28.04.2023	28.04.2023
AF Stage 1 Dewatering	01.05.2023	01.05.2023
Laydown Area Basin Dewatering	01.05.2023	01.05.2023
SB1700 Dewatering	01.05.2023	01.05.2023
SB1629 Dewatering	01.05.2023	01.05.2023
Batch Plant Basin Dewatering	01.04.23	01.04.23

Table 5-3 Discharge Events as a result in exceedance of rainfall design capacity

Date of discharge	Sediment Basin	Five-day Rainfall Event
01.05.2023	SB 1629	29 and 30 April 2023 – 48.6 mm
	SB 1700	
	AF Stage 1	
	Laydown Basin	

6 Correction Log

It's possible from time to time that incorrect data may get published in good faith.

As soon as practicable after the licensee becomes aware that the published pollution monitoring data is incorrect or misleading, licensees must then publish a correction log to correct this data that is incorrect or misleading.

There are no matters included in the correction log for this reporting period.

Appendices

Appendix A1 – Weather Observations

Badgerys Creek, New South Wales
April 2023 Daily Weather Observations

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9 am						3 pm					
		Min	Max				Dir	Spd	Time	Temp	RH	Cld	Dir	Spd	MSLP	Temp	RH	Cld	Dir	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	8th		km/h	hPa	°C	%	8th		km/h	hPa
1	Sa																				
2	Su																				
3	Mo																				
4	Tu																				
5	We																				
6	Th																				
7	Fr																				
8	Sa																				
9	Su																				
10	Mo																				
11	Tu																				
12	We																				
13	Th																				
14	Fr																				
15	Sa																				
16	Su																				
17	Mo																				
18	Tu																				
19	We																				
20	Th															18.5	69				1023.3
21	Fr	11.3	24.0							17.3	64		WSW	11	1028.9	20.4	48		NNW	13	1027.4
22	Sa	10.4	24.8	0			NNW	22	13:11	17.5	70		WSW	11	1031.2	23.9	54		NNE	9	1028.7
23	Su	11.7	25.8	0.2			WNW	30	17:01	17.7	86		WSW	9	1032.2	22.8	54		NNW	11	1031.2
24	Mo	15.0	24.2	4.6			NNE	24	14:30	19.4	76		W	9	1034.0	21.2	63		NNE	17	1031.1
25	Tu	14.9	25.4	0.6			ENE	20	11:30	19.0	82		NE	4	1030.6	24.3	48		ESE	6	1025.8
26	We	10.9	23.9	0.2			ESE	22	12:21	17.4	87		N	4	1029.0	22.1	55		E	11	1025.9
27	Th	10.5	25.3	0			ENE	28	13:31	17.0	89		NNE	2	1026.1	24.5	42		ENE	11	1020.9
28	Fr	8.8	28.3	0.2			ENE	24	15:35	16.5	88		ENE	2	1018.5	27.6	40		E	13	1012.3
29	Sa	15.2	17.2	2.0			SW	35	22:29	16.2	100		ENE	4	1011.1	15.7	96		ESE	11	1009.6
30	Su	13.6	19.4	38.6			WSW	31	14:00	14.5	90		SSW	9	1010.6	18.1	63		WSW	15	1009.5
Statistics for April 2023																					
Mean		12.2	23.8							17.2	83			6	1025.2	21.7	57			11	1022.3
Lowest		8.8	17.2	0						14.5	64		#	2	1010.6	15.7	40		ESE	6	1009.5
Highest		15.2	28.3	38.6			SW	35		19.4	100		WSW	11	1034.0	27.6	96		NNE	17	1031.2
Total				46.4																	

IDCJDW2005.202304 Prepared at 13:00 UTC on Sunday 7 May 2023

Badgerys Creek AWS #067108 – April 2023

Appendix A2 – Noise and Vibration Monitoring Results

Appendix A3 – Active Discharge Points