



# **EPL 21672 Monitoring Report, July 2022**

Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works

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## Table of contents

1. Introduction	on	2
1.1. Backo	ground	2
1.1.1. S	Station Boxes and Tunnelling Works	4
1.2. Scope	e of this report	4
2. Reporting	Requirements	6
3. Monitoring	J	10
3.1. Meteo	orological Data	10
3.2. Noise		11
3.3. Disch	arge to Water	11
4. Correction	Log	12
Table 2: Licens Table 3: EPL 2	Vorksite Jurisdictionse details	5 7
Figures	view of the Project	
Annexures	S	
Annexure A	Weather Observations	13
Annexure B	Noise Monitoring Results	15
Annexure C	Discharge to water	16







#### 1. Introduction

## 1.1. Background

The Sydney Metro Western Sydney Airport will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) and the growing region.

The Project forms part of the broader Sydney Metro network. It involves the construction and operation of a 23km new metro rail line that extends from the existing Sydney Trains suburban T1 Western Line (at St Marys) in the north and the Aerotropolis (at Bringelly) in the south. The alignment includes a combination of tunnels and civil structures, including viaduct, bridges, surface and open-cut troughs between the two tunnel sections (

Figure 1).

The Sydney Metro Western Sydney Airport EIS was prepared in October 2020 to assess the impacts of construction and operation of the Project and was placed on public exhibition between 21 October 2020 and 2 December 2020. The Project was declared a Critical State Significant Infrastructure (CSSI) Project and is listed in Schedule 5 of *State Environmental Planning Policy (State and Regional Development)*.

The Sydney Metro Western Sydney Airport was approved by the Minister for Planning and Public Spaces on 23 July 2021 (SSI 10051) under section 5.19 of the *Environmental Planning and Assessment Act 1997* (EP&A Act).

The Project will be delivered through the following stages:

- Advanced and Enabling Works (AEW) Site investigations, modification of the existing transport network, power and water supply for construction sites, utility and stormwater diversions and some demolition works.
- Station Boxes and Tunnelling Works (SBT) delivered through the following sub-stages:
  - Preparatory Works (the subject of this Plan) Including NSW (off-airport) demolition works, site levelling/grading, site access and parking, utility and temporary services works, erection of demountable buildings and noise barriers, tunnelling preparatory works and use of ancillary facilities including onsite parking.
  - Bulk Excavation and Tunnelling Works Preparatory Works (works not completed prior to Final CEMP approval), bulk excavation, acoustic shed installation, tunnelling and cross passage installation.
- Surface and Civil Alignment Works (SCAW) Construction of bridges and viaducts to cross floodplains, watercourses and existing and proposed permanent infrastructure.
- Stations, Systems, Trains, Operations and Maintenance (SSTOM)

   Station design and fitout, testing and commissioning, and operation of the Western Sydney Airport metro service
- Finalisation Auxiliary Works.

Each package of work is to be delivered under separate contracts on behalf of the proponent Sydney Metro.







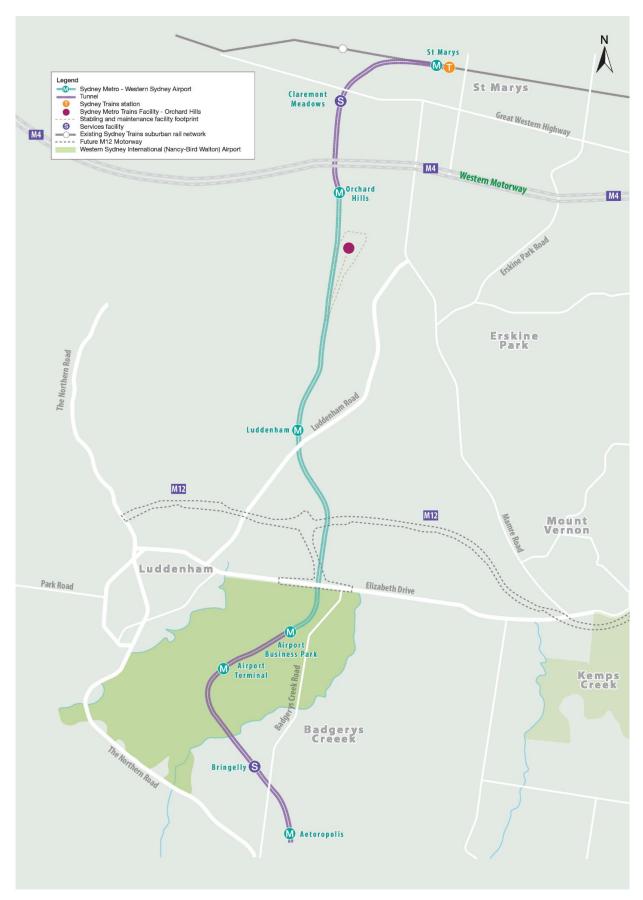


Figure 1: Overview of the Project





#### 1.1.1. Station Boxes and Tunnelling Works

The CPB Ghella JV has been engaged to deliver the SBT Works. The SBT Works include the design and construction of:

- Two sections of twin tunnels with a total combined length of approximately 9.8km, including associated portal structures; Orchard Hills to St Marys and Western Sydney International (WSI) airport to the new Aerotropolis Station in NSW
- Excavations at either end to enable trains to turn back and stub tunnels to enable future extensions
- Station box excavations with temporary ground support for four stations at St Marys, Orchard Hills, Airport Terminal and Aerotropolis
- Excavations for two intermediate service facilities, one in each of the tunnel sections at Claremont and Bringelly.

Completed sections of the SBT Works, including established construction worksites, will be progressively handed over to Sydney Metro to enable follow-on contractors to commence works. The exception is the on-airport Precast Segment Storage Facility which will be decommissioned and hydroseeded following the completion of segment manufacture.

### 1.2. Scope of this report

CPB Contactors Pty Limited have been issued an Environmental Protection Licence (EPL No. 21672) from the NSW Environment Protection Authority (EPA) for the Sydney Metro Western Sydney Airport Station Box and Tunnelling Package on behalf of Sydney Metro.

The EPL applies to the works approved under the Infrastructure Approval SSI-10051 associated with the delivery of Sydney Metro Western Sydney Airport SBT Works Off-airport worksites. The EPL does not apply to other Sydney Metro Western Sydney Airport works packages or On-airport SBT Worksites.

An overview of relevant jurisdiction at each SBT Worksite is provided in Table 1.

Table 1: SBT Worksite Jurisdiction

Jurisdiction	Worksite
NSW	St Marys
NSW	Claremont Meadows
NSW	Orchard Hills
On-Airport	Airport Portal Dive Structure
On-Airport	Airport Terminal and TBM shaft
On-Airport	Precast Segment Storage Facility
On-Airport	Primary Spoil Receival
NSW	Bringelly
NSW	Aerotropolis

Note: Worksites shown in grey are within the boundary of the Western Sydney International (On-Airport), are regulated under the *Commonwealth Airports Act 1996* and are outside the scope of EPL 21672.

This EPL Pollution Monitoring Report provides the results of all pollution monitoring required to be measured or monitored by the licensee of EPL 21672 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 2 provides a summary of the EPL 21672 details.

Table 2: License details

Licence Details	
Number:	21672
Copy of License	ViewPOEOLicence.aspx (nsw.gov.au)
Anniversary Date	30-May
Licensee	CPB Contractors Pty Limited
Premises	Sydney Metro Western Sydney Airport Station Box and Tunnelling Package
	St Marys to Orchard Hills and Bringelly to Aerotropolis
	St Marys NSW 2760
Scheduled Activity	Railway activities - railway infrastructure construction







## 2. 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 SBT 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 is possible from time to time that incorrect data may be 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 4).

Table 3 provides a summary of the pollution monitoring requirements of EPL 21672.







Table 3: EPL 21672 Pollution Monitoring Requirements

EPL Condition	Requirement	Report Reference
Weather		
M5.1	The licensee must monitor and record temperature, 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. Monitoring must:	Section 3.1 Annexure A
	a) be representative of the premises;	
	b) commence prior to any works that may cause sediment to leave the premises; and	
	c) continue to be operated until soil disturbance activities cease at the premises and the site has been stabilised.	
	The rainfall monitoring data collected in compliance with this condition can be used to determine compliance with condition L2.5	
Noise		
L5.9	In undertaking any works and activities outside of standard construction hours under condition L5.8, the licensee must comply with the following:	Section 3.2 Annexure B
	a) Prepare a construction noise and vibration impact assessment in accordance with the Interim Construction Noise Guideline (DEC, 2009) that is to include:	
	<ul> <li>i. a description of the proposed works and activities outside of standard construction hours;</li> </ul>	
	ii. predictions of LAeq (15 minute) dB noise levels at noise sensitive receivers from these works and activities, where noise levels are predicted to be greater than those permitted under condition L5.3; and	
	iii. a monitoring plan to validate the noise predictions, based on monitoring at the boundary of representative sensitive receivers during noise generating activities that are representative of the works and activities, including during the period/s predicted to have the highest noise level impacts.	
	b) Undertake noise monitoring in accordance with the monitoring plan required by condition L5.9(a)(iii).	
M4.4	The licensee must undertake noise and vibration monitoring as directed by an authorised officer of the EPA. Where the monitoring is requested to take place on private land (for example a residential property) the licensee must request permission to access the premises in advance and keep a record of permission requests and responses. If a licensee is unable to obtain permission, the licensee must undertake the monitoring at an indicative location where possible and they must provide the response (including any nil response) to the EPA.	N/A  No direction received from EPA to undertake noise and vibration monitoring during this reporting period.





EPL Condition	Requirement	Report Reference
Community	Agreements	
	may work outside standard construction hours (as defined in L5.1) in circumstances of der conditions L5.3, L5.4, or any other condition of the license, subject to the condition	
E1.4	A noise validation monitoring plan must be submitted to the EPA for approval as part of the community agreement documentation prior to any OOHW occurring.	N/A No OOHW was
E1.5	Validation monitoring must be undertaken for any OOHW that are the approved under condition E1.1 and must:	undertaken during this
	a) be undertaken in accordance with the monitoring plan prepared under condition E1.4;	reporting period under this license condition.
	b) be performed by a Competent Person;	
	c) be performed on at least the first 2 occasions (day, evening, nights) where OOHW will be undertaken and are likely to impact Noise Sensitive Receivers;	
	d) be performed on any other occasion (day, evening, night) where the nature of the works is likely to cause greater noise impacts than the first 2 occasions;	
	e) be representative of the impacts in terms of monitoring locations, time and duration of measurements; and	
	f) be recorded and provided to an EPA officer upon request	
Water		
P1.1	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	No discharge locations approved or
	1 Discharge and Monitoring Discharge and Monitoring The outlet(s) of the sediment basin(s) on the Orchard Hills site discharging to South Creek referred to in Condition P1.2	used for this reporting period
	2 Discharge and Monitoring Discharge and Monitoring The outlet(s) of the sediment basin(s) on the Claremont site discharging to South Creek referred to in Condition P1.2	
	3 Discharge and Monitoring Discharge and Monitoring The outlet(s) of the sediment basin(s) on the St Marys site discharging to South Creek referred to in Condition P1.2	
	4 Discharge and Monitoring Discharge and Monitoring The outlet(s) of the sediment basin(s) on the Bringelly site discharging to Badgerys Creek referred to in Condition P1.2	
	5 Discharge and Monitoring Discharge and Monitoring The outlet(s) of the sediment basin(s) on the Aerotropolis site discharging to Thompson Creek referred to in Condition P1.2	
L2.1	For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	No discharge locations approved or used for this reporting period
M2.2	POINT 1,2,3,4,5	Noted
	Pollutant         Units of measure         Frequency         Sampling Method           Oil and Grease         Visible         Special Frequency 1         Visual Inspection           pH         pH         Special Frequency 1         Probe           Turbidity         nephelometric turbidity units         Special Frequency 1         Probe	Reference criteria







EPL Condition	Requirement			Report Reference			
M2.3	For the purposes of Conditi means:	No discharge locations					
	a) less than 24 hours prior to controlled discharge, when		and daily for any continued	approved or used for this reporting period			
	b) when rainfall causes a discharge from a sediment basin which has not been emptied within the design management period following cessation of a rainfall event, when it is safe to do so.						
E2.1	1	.1 for a minimum of 6 mg	r monitoring at discharge point onths from the date of issue of e:	No discharge locations approved or			
	a) quality and quantity of all each discharge point; and	I parameters that are ide	entified in the table in E2.2 at	used for this reporting period			
	b) results must be submitte monitoring event has occur this licence.						
E2.2	Catergory	Measured	Parameters				
	Physio-chemical parameters	In-field using a calibrated multi parameter probe.  Laboratory testing	Temperature ("C) Dissolved Oxygen (% saturation) Electrical Conductivity (µS/cm) Reduction-Oxidation Potential (Redox)(mV) H Total suspended solids (TSS) Turbidity (NTU) Visible oil and grease Aluminium				
	Metals						
	Organochlorine Pesticides	Laboratory testing	Endosulphan     Methoxychlor				
	Total Petroleum Hydrocarbons	Laboratory testing	TPH C10-C36 Fraction TPH C6-C9 Fraction				
Additional N	Ionitoring Conditions						
M4.5	The licensee must undertake photographs:	Noted					
	a) if the EPA or licensee reapremises or in connection valuesing, is likely to cause of environment (whether the happlies);						
	b) as soon as practicable; a						
	c) as directed by an authori						





## 3. Monitoring

Section 3 presents a summary of the monitoring programs completed in the reporting period from 1 July 2022 to 31 July 2022.

Detailed monitoring results for each program stated in Table 3 are presented in the Appendices.

## 3.1. Meteorological Data

Meteorological data for the Project has been taken from Badgery's Creek Automatic Weather Station (AWS).

The total rainfall recorded during the reporting period was 280 mm, with 13 days exceeding one millimetre of rain and four days of rain exceeding 10 mm.

During the reporting period, there were 19 days where the maximum wind gust recorded was greater than 25 km/hr, three days where the maximum wind gust recorded was greater than 50 km/h, and one day where the maximum wind gust was greater than 60 km/hr. Winds recorded during the reporting period were predominantly westerly component, however there was variability throughout the month.

Detailed weather observation records for the reporting period are presented in Annexure A.

Table 4 Weather summary and trigger weather events for reporting period<sup>1</sup>

Weather Event	Observations
Minimum temperature	-1.3°C
Maximum temperature	20.8°C
Total rainfall	280.0 mm
Number of days with rain (>1mm)	13 days
Number of days with rain (>10mm)	4 days
Flood warning / events	1 event
>25 km/hr wind²	19 days
>50 km/hr wind	3 days
>60 km/hr wind	1 day

<sup>&</sup>lt;sup>1</sup>Weather summary based on data from the period between 1 July 2022 to 31 July 2022 (31 days).



<sup>&</sup>lt;sup>2</sup>Weather data from Badgery's Creek AWS {station 067108}.





#### 3.2. Noise

Noise monitoring is a requirement of the following conditions of EPL 21672:

- L5.9, E1.4 Monitoring to validate the noise predictions for works undertaken outside of the standard construction hours as per the construction noise impact assessment
- M7.6 Noise monitoring following noise and vibration complaints
- M4.4 Noise and vibration monitoring as directed by an authorised officer of the EPA.

Table 5 provides a summary of noise monitoring events conducted during the reporting period. Detailed noise monitoring results and comments are presented in Annexure B. There were no exceedances of the predicted noise level ( $L_{Aeq15min}$ ) during the reporting period.

Table 5: Summary of noise monitoring for reporting period

Date	Monitoring Location	Attended/Continuous	Description
17/07/2022	28 Phillip Street, St Marys	Attended	Asset Relocation (OOHW)
17/07/2022	31 Phillip Street, St Marys	Attended	Asset Relocation (OOHW)
17/07/2022	31 Phillip Street, St Marys	Attended	Asset Relocation (OOHW)
17/07/2022	28 Phillip Street, St Marys	Attended	Asset Relocation (OOHW)

## 3.3. Discharge to Water

No discharge to water has occurred during this reporting period.







## 4. Correction Log

It is possible from time to time for incorrect data to 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.







#### Annexure A Weather Observations

Table 6: Weather Observations: Badgerys Creek AWS (station 067108).

Date	Temperatures			9am		3pm	
	Min	Max	Rain	Temperature	Relative Humidity	Temperature	Relative Humidity
		°C	mm	°C	%	°C	%
01/07/2022	9.4	12.7	0	10.9	79	10.7	92
02/07/2022	9.3	14.3	5.2	12.6	100	13.7	100
03/07/2022	12.6	14.5	121.8	14.1	100	14	99
04/07/2022	12.7	14.5	29.6	13.7	100	13.4	100
05/07/2022	11.9	14	75.2	13	93	13.4	94
06/07/2022	11.7	15.7	0.6	13.4	91	14.6	97
07/07/2022	13.1	19.5	2.2	14.6	79	19	58
08/07/2022	4.2	14.9	0.2	11.1	63	14	50
09/07/2022	5.2	16.7	0	10.7	69	16	47
10/07/2022	5.4	16	5.8	10.9	98	14.5	71
11/07/2022	7.4	17.7	2.8	11.9	82	15.6	67
12/07/2022	3.6	16.9	0	7.8	100	16	53
13/07/2022	4.1	16.1	0	9.2	80	14	54
14/07/2022	8.1	16.8	0	11.5	60	16.1	48
15/07/2022	3.2	17	0	8.5	78	16.1	38
16/07/2022	-1.3	14.2	0	1.8	99	12.4	59
17/07/2022	1.7	20.8	0	12.3	60	19.9	26
18/07/2022	4.5	15.5	0	12.2	61	13.5	41
19/07/2022	3.6	15.4	0	9.7	62	13.1	60
20/07/2022	7.7	15.2	2.2	9.8	99	12.1	93
21/07/2022	7	14.3	2.2	12.1	100	12.6	99
22/07/2022	9.7	17	16.6	12.4	100	13.7	92
23/07/2022	8.4	17.2	8.4	11.7	100	15.6	87
24/07/2022	6.3	19.3	1.4	10.3	100	18.7	57
25/07/2022	3.8	18.8	0	9.8	100	16.6	65
26/07/2022	8.6	18.5	5.6	11.4	100	13.5	57
27/07/2022	6.3	18	0.2	11.8	56	17.3	41
28/07/2022	3.6	19.9	0	10.8	79	17.6	47
29/07/2022	5.3	16.8	0	11.6	60	16.3	33
30/07/2022	2	16.9	0	8.4	74	15.9	39
31/07/2022	0.4	14.9	0	4.5	99	13.9	66





Table 7: Wind Observations: Badgery's Creek AWS (station 067108).

Date	Maximum wind gusts			9a	9am		3pm	
	Direction	Speed	Time	Direction	Speed	Direction	Speed	
	Direction	km/h	Local	Direction	km/h	Direction	km/h	
01/07/2022	WSW	20	12:52	SSW	7	WSW	11	
02/07/2022	ESE	39	19:58	SW	7	SSE	17	
03/07/2022	SE	44	9:17	SE	20	S	19	
04/07/2022	SW	44	10:57	SW	17	SW	26	
05/07/2022	SSW	44	0:39	S	17	SSW	17	
06/07/2022	SSW	28	15:18	SW	15	SSW	15	
07/07/2022	WSW	35	10:59	SW	15	SSW	6	
08/07/2022	WSW	52	12:17	W	9	WSW	24	
09/07/2022	SW	30	13:34		Calm	SW	19	
10/07/2022	S	39	11:52	SW	19	SSW	20	
11/07/2022	SSW	24	10:30	WSW	7	SE	4	
12/07/2022	N	11	20:08		Calm	NE	2	
13/07/2022	SSW	37	13:26	SSW	9	SSW	15	
14/07/2022	SW	50	9:27	SW	22	SSW	19	
15/07/2022	WSW	20	9:08	WSW	13	SW	6	
16/07/2022	NNW	19	21:37		Calm	NNE	4	
17/07/2022	WNW	63	11:49	NNE	19	NW	31	
18/07/2022	WSW	43	12:49	W	9	WSW	24	
19/07/2022	S	39	14:46	SW	15	S	19	
20/07/2022	SSE	20	12:29	SW	6	S	7	
21/07/2022	SE	24	20:32	WSW	7	ENE	2	
22/07/2022	Е	43	14:23	SSW	4	ESE	11	
23/07/2022	SSE	20	15:43		Calm	Е	6	
24/07/2022	ESE	13	18:14		Calm	W	4	
25/07/2022	NNE	24	14:14		Calm	NNE	11	
26/07/2022	WSW	57	15:19	WSW	6	WSW	31	
27/07/2022	SW	41	12:26	SW	17	WSW	19	
28/07/2022	SW	37	15:29	NNW	4	SW	17	
29/07/2022	WSW	30	10:23	SW	15	SW	13	
30/07/2022	NNE	22	15:56	WSW	9	NE	15	
31/07/2022	NE	17	11:35		Calm	SW	6	





#### Annexure B Noise Monitoring Results

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	NML (dBA)	Predicted (dBA)	Additional Mitigation Measures	Recorded L <sub>eq, 15min</sub> (dBA)	LAmax	Exceedance of Predicted (dBA)	Exceedance of Predicted	Comments
17/07/2022	8:40am	OOHW1	Asset Relocation	Phillip Street, St Marys	31 Phillip Street, St Marys	42	75	LB, M, SN, IB, PC, RO	69	83.6	- 6	No	OOHW verification noise monitoring. Construction activities were dominant noise source.
17/07/2022	8:55am	OOHW1	Asset Relocation	Phillip Street, St Marys	31 Phillip Street, St Marys	42	90	LB, M, SN, IB, PC, RO	80	94.6	- 10	No	OOHW verification noise monitoring. Construction activities were dominant noise source. High impact works (saw cutting) were being undertaken.
17/07/2022	2:00pm	OOHW1	Asset Relocation	Phillip Street, St Marys	28 Phillip Street, St Marys	42	76	LB, M, SN, IB, PC, RO	67.5	86.4	- 8.5	No	OOHW verification noise monitoring. Construction activities were dominant noise source.

#### OOHW1 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).

#### OOHW2 is defined as:

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

#### **Additional Mitigation Measures**

LB = Letter box drops

M = Monitoring

SN = Specific Notification

RO = Project Specific Respite Offer

IB = Individual Briefing

PC = Phone Calls and Emails

AA = Alternate Accommodation



EPL 21672 Monitoring Report, July 2022 | Page xv





## Annexure C Discharge to water

Note: No discharge to water was undertaken during the reporting period.

ID	Construction Status	Easting Northing	Reference System	Description of location of discharge point	Catchment name	Name of nearest waters	Direct discharge to waters	catchment	Basin size (operational) m3		Revision Added

