



ENVIRONMENT PROTECTION LICENCE NO: 21029

August 2020 Monthly Report

FOR

**Princes Highway Upgrade
between Berry and Bomaderry**

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Contents

1	INTRODUCTION	4
2	NON-COMPLIANCES	5
3	RAINFALL AND WEATHER	5
4	SEDIMENT BASIN DISCHARGE	7
5	AIR MONITORING RESULTS	9
6	NOISE MONITORING RESULTS	11
7	ENVIRONMENTAL COMPLAINTS	14
	Table 3-1 August 2020 Rainfall monitoring results.....	5
	Table 4-1 August 2020 Sediment basin discharge(s)	8
	Table 5-1 August 2020 Air quality monitoring results.....	10
	Table 6-1 August 2020 Noise Monitoring Results.....	11

2 NON-COMPLIANCES

No non-compliances occurred against EPL conditions during the month of August. However, one incident was notified to the EPA, which involved the offsite removal of fill material by a subcontractor prior to waste classification. The material was taken to an offsite holding yard where it was held until waste classification could be finalised. Soil tests had been undertaken on the material prior to its removal and a retrospective waste classification was subsequently obtained. The material was classified as GSW (non-putrescible) and has subsequently been disposed to an appropriately licensed facility.

3 RAINFALL AND WEATHER

The RMS automatic weather station is situated at Ison Lane, Jaspers Brush, located adjacent to the project's main ancillary compound (Ison Lane Compound) for the project. The results of rainfall monitoring for August 2020 are provided in Table 3-1 and Figure 3-1 below.

Table 3-1 August 2020 Rainfall monitoring results

Location	Monthly rainfall recorded (mm)
Ison Lane, Jaspers Brush (RMS automatic weather station)	357.2

August experienced a total of 357.2 mm rainfall recorded at the project specific weather station at Ison Lane, Jaspers Brush (RMS automatic weather station). The weather during August was far wetter than average as the long-term mean expected rainfall is 80.1 mm for August as taken from the Nowra RAN Air Station AWS Bureau of Meteorology Weather Station (Station Number 068072).

The rainfall event of the most significance occurred from 8/08/20 – 10/08/20 during which 337.2mm of rainfall was experienced.

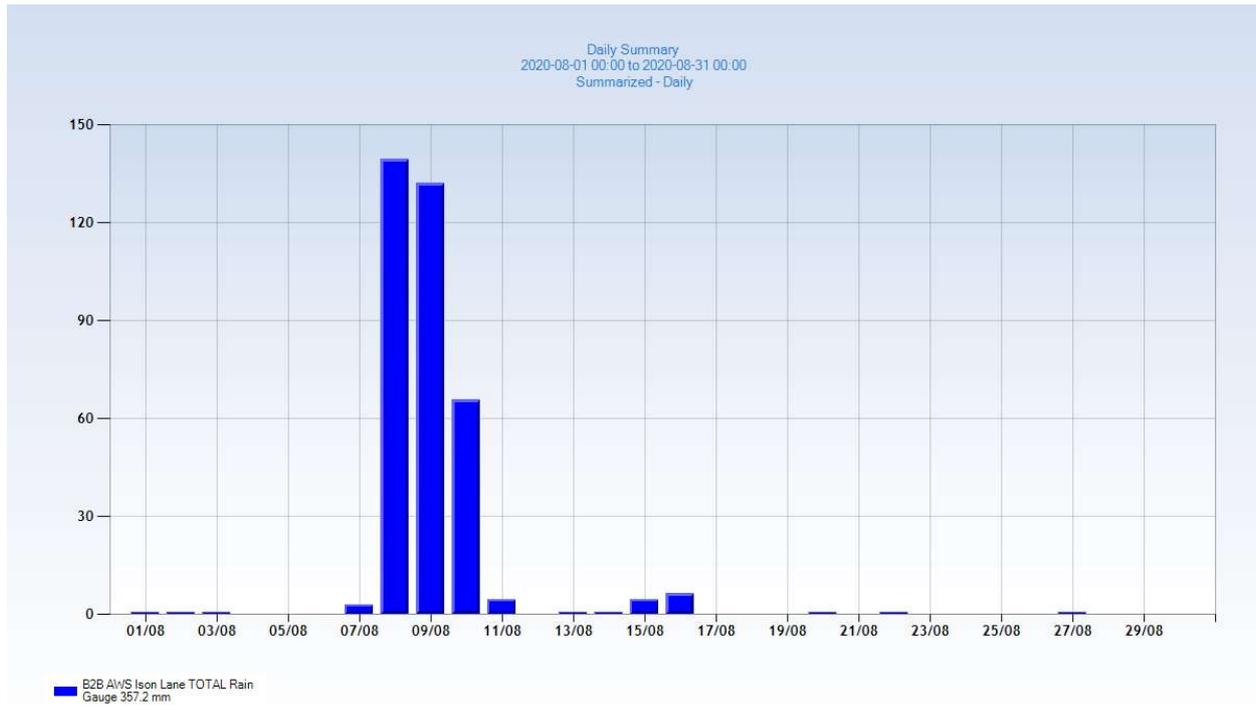


Figure 3-1 August Rainfall Results from Ison Compound Weather Station

Mild conditions prevailed earlier in August with several days experiencing high wind speeds in the latter half of the month. The predominant wind direction for August was from WSW. The highest wind gust recorded was 69.8 km/h and the maximum wind speed was 46.6 km/h (refer Figure 3-2). DSWJV continue to monitor site activities, implement dust suppressant across site, utilise a fleet of water carts during working hours and limit dust generating activities and/or suspend work activities on days of high wind.

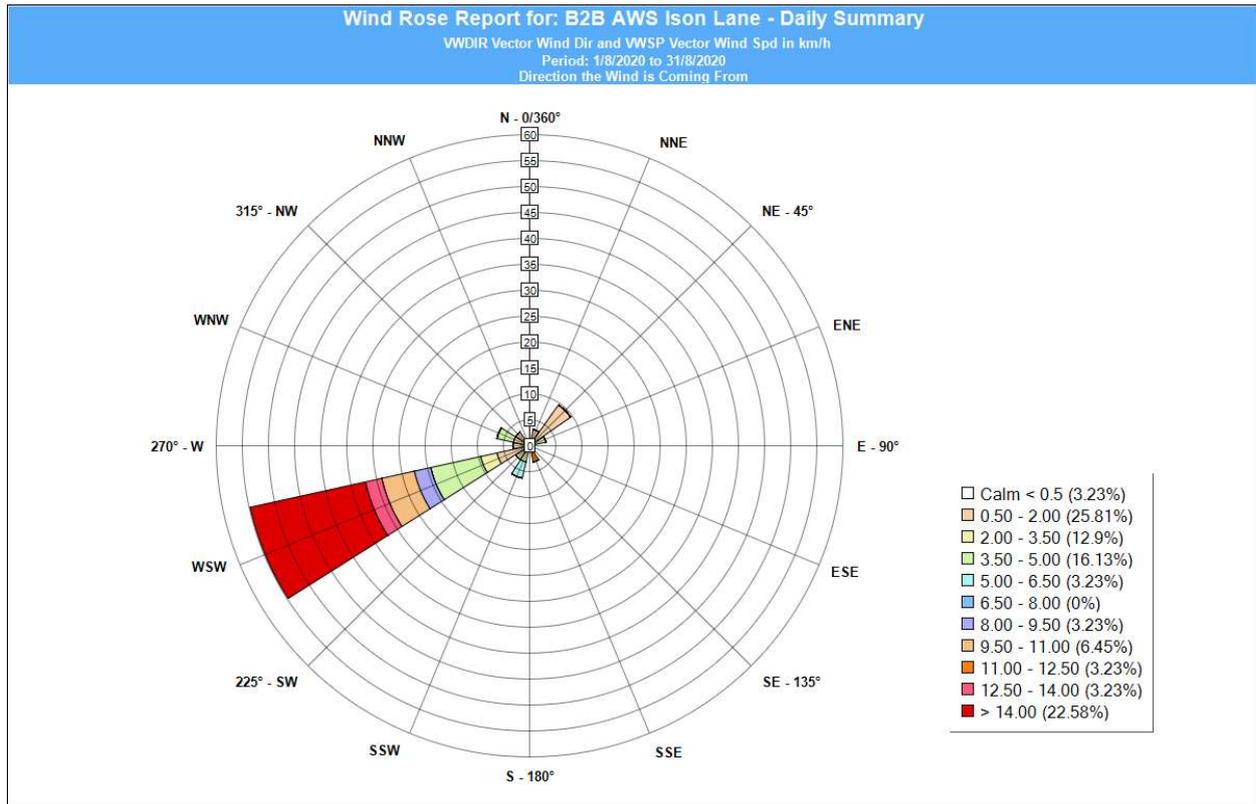


Figure 3-2 August 2020 Wind Rose Results from Ison Lane Compound Weather Station. Average Wind direction and Average Wind Speed shown.

4 SEDIMENT BASIN DISCHARGE

Twelve sediment basins and three discharge points were licensed under the EPL at the commencement of August 2020.

August was a notably wet month with a significant event on 8/08/20 – 10/08/20 during which 337.2mm of rainfall was received. The 5-day rainfall specified in Condition L2.5 of EPL 21029 was exceeded on 8th of August. Uncontrolled discharges occurred as a result of the rainfall at sediment basins and across sites. This was reported via the EPA Environment Line on 8th August. All sediment basins were returned to operational status by 26th August. The delay in dewatering basins was primarily due to continued water ingress into site areas for an extended period after cessation of the rainfall event.

On the 20th of June 2019, in accordance with licence condition L2.6, DSWJV began to use a statistical correlation for the calculation of TSS (mg/L) from Turbidity (NTU). The correlation uses the formula of $TSS (mg/L) = 0.43 * (NTU) + 1.00$. Given that the threshold value for TSS is 50mg/l, samples if less than 114 NTU would be deemed suitable for discharge. For a factor of safety, the acceptable discharge limit was reduced to 90 NTU.

See Table 4.1 below for details on sediment basin discharges.

Table 4-1 August 2020 Sediment basin discharge(s)

EPA Identification No.	Location (adjacent address)	Discharge Date	pH (6.5-8.5)	Nephelometric Turbidity Units (<90NTU)	Oil and Grease (none visible)
PB19.82.S	Mullers Lane	03/08/20	7	30	None visible
		13/08/20	7.5	50	None visible
PB24.45.N	B660 Princes Highway	04/08/20	7.72	78.7	None visible
		18/08/20	7	70	None visible
		24/08/20	7.5	30	None visible
TB21.15.N	8 Cell Culvert	03/08/20	7.5	50	None visible
		20/08/20	7.5	60	None visible
TB21.50.N	Opposite Jaspers Brush Road	03/08/20	8	60	None visible
		20/08/20	7.5	50	None visible
TB21.70.S	Intersection at Jaspers Brush Road	12/08/20	6.59	56.9	None visible
TB21.90.S	Jaspers Brush Ancillary Site	11/08/20	7	40	None visible
TB22.25.S	Opposite Strongs Road	04/08/20	7.5	50	None visible
		14/08/20	7.5	70	None visible
		19/08/20	7.5	70	None visible
TB22.65.S	Opposite Ison Lane	12/08/20	7	40	None visible
		26/08/20	7	40	None visible
TB22.65.N	North of Ison Lane	03/08/20	6.86	89.1	None visible
		18/08/20	7.24	112*	None visible
TB22.80.N	Ison Compound	05/08/20	7.5	40	None visible
		11/08/20	7.35	79.8	None visible
		18/08/20	6.87	53	None visible
TB26.15.S	North of Tandingulla Creek	15/08/20	7.5	60	None visible
TB28.50N	North of Abernethys Lane	11/08/20	7.3	15.3	None visible
		31/08/20	7.5	40	None visible
TB28.90.N	Abernethy's Lane	11/08/20	6.57	55.1	None visible

CH20.50.S	Adjacent to Flying Fox Creek	No discharges in August 2020			
CH25.15N	Devitts Lane	18/08/20	7.5	50	None visible
		20/08/20	7.2	34	None visible
		24/08/20	7.5	35	None visible
		25/08/20	7.5	70	None visible
CH27.81.N	Pestells Lane	03/08/20	7.2	58	None visible
		17/08/20	7.5	60	None visible
		21/08/20	7.29	66.6	None visible

* A sample was taken at this location and sent to a NATA accredited laboratory for analysis of total suspended solids and yielded a result of 34 mg/L, below the discharge criteria of 50 mg/L TSS.

5 AIR MONITORING RESULTS

Dust deposition gauges for the project were installed on 20 July 2020 and changed on 21 August 2020 for a total of 32 days of deployment, ie within the NATA accredited window (30 days +/- 2 days), according to the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016).

During sample collection in August, the water level in each bottle (all monitoring locations) was observed to have exceeded capacity and overflowed from the attached funnel. It is likely that the content of the bottles had overtopped during the significant rainfall event of 8/08/20 – 10/08/20. Therefore the total level of insoluble matter deposited for the month may not be accurate.

Based on field observations the level of visual dust in the project area was very low given the wet ground conditions and the high proportion of sealed surfaces within the project boundary (pavements and landscaped areas).

No monitoring points exceeded the monthly criteria for total insoluble matter of 4 g/m²/month during August and none exceeded the rolling annual average for deposited dust, also 4 g/m²/month based on the past 12 months of data.

Table 5-1 August 2020 Air quality monitoring results

EPA Identification No.	Location (adjacent address)	Ash Content g/m ² ,month	Combustible Matter g/m ² ,month	Total Insoluble Matter g/m ² ,month	Rolling Average (Total Insoluble Matter) g/m ² ,month
1-DDG A	10 Croziers Lane, Jaspers Brush	0.3	0.1	0.4	3.9
2-DDG B	10A Jaspers Brush Road, Jaspers Brush	1.3	0.1	1.4	2.7
3-DDG C	20C Strongs Road, Jaspers Brush	0.6	0.1	0.7	2.1
4-DDG D	10C Jaspers Brush Road, Jaspers Brush	0.4	0.1	0.5	3.1
5-DDG E	30 Ison Lane, Jaspers Brush	0.2	<0.1	0.2	0.9
6-DDG F	Lot 209 DP 1210788	1.4	0.5	1.9	1.9
7-DDG H	10 Lamonds Lane, Meroo Meadow	0.7	0.1	0.8	2.1
8-DDG I	19 Boxsells Lane, Meroo Meadow	0.2	<0.1	0.2	1.5
9-DDG J/K	265 Princes Highway, Meroo Meadow	0.2	0.6	0.8	1.6
10-DDG L	1028 Meroo Meadow, Meroo Meadow	1.0	0.1	1.1	2.9
11-DDG M	32 Elvin Drive, Bomaderry	0.3	0.6	0.9	2.5
12-DDG N	9 Devitt's Lane, Meroo Meadow	0.2	<0.1	0.2	1.7
13-DDG P	24 Abernethys Lane, Meroo Meadow	0.4	0.1	0.5	1.7

Note: bold type indicates a result above the relevant criteria

Figure 5-1 provides air quality data from the nearest OEH ambient air quality monitoring stations to the project (Wollongong, Kembla Grange and Albion Park, approximately 25 km north of the project area). Generally, regional air quality was good for the month of August with several days of poor air quality.

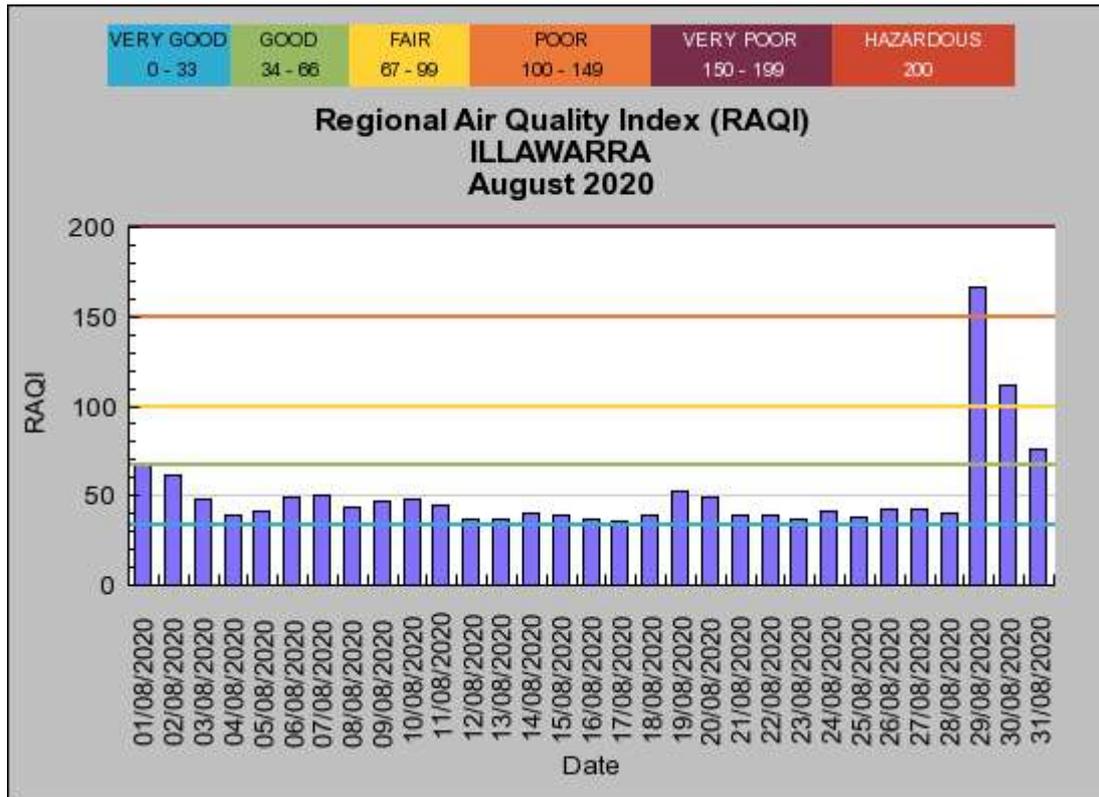


Figure 5-1: Regional Air Quality Index for August from the nearest OEH air quality monitoring stations – Illawarra (NSW OEH).

6 NOISE MONITORING RESULTS

Noise monitoring was undertaken in accordance with the Construction Noise and Vibration Management Plan (CNVMP) for the project in August 2020. No exceedances above predicted levels for the relevant activity were recorded.

Table 6-1 below summarises the attended noise monitoring undertaken in August 2020.

Table 6-1 August 2020 Noise Monitoring Results

EPA ID No.	Location description	Construction activity	Date	Time	L(A) _{eq} 15min	Comments
15	L1 - B210 Princes Highway, Jaspers	No construction works in the vicinity	21/08/2020	10:00	57.4	<ul style="list-style-type: none"> Traffic from Princes Highway the dominant noise source. Several construction trucks entering and exiting gate

EPA ID No.	Location description	Construction activity	Date	Time	L(A) _{eq} 15min	Comments
16	L2 - 20C Strongs Road, Jaspers Brush	Bridgeworks	17/08/20	8:13	62.9	<ul style="list-style-type: none"> Traffic from Princes Highway the dominant noise source. Several LVs driving adjacent to monitor Reversing squawkers
17	L3 - 30 Ison Lane, Jaspers Brush	Compound operation	14/08/2020	10:57	51.22	<ul style="list-style-type: none"> Truck pumping out septic tank at Ison Compound Traffic from Princes Highway Car passing on Ison Lane
18	L5 - 15 Turner Lane, Jaspers Brush	Rock crushing, screening and hammering	26/8/2020	8:32	57.8	<ul style="list-style-type: none"> Birds chirping Constant traffic from Princes Highway Excavator rock hammering intermittently Misc construction sounds, reversing squawkers, trucks tipping in the distance
19	L6 - B710 Princes Highway, Jaspers Brush	No construction woks in the vicinity	14/08/2020	10:00	61.4	<ul style="list-style-type: none"> Traffic from Princes Highway the dominant noise source.
20	L7 - 310C Princes Highway, Jaspers Brush	No construction woks in the vicinity	26/8/2020	8:53	68.9	<ul style="list-style-type: none"> Traffic from Princes Highway the dominant noise source.
21	BG08 - 19 Boxsells Lane, Meroo Meadow	No construction woks in the vicinity	21/08/2020	8:29	56.2	<ul style="list-style-type: none"> Several cars passing on Boxsells Lane
22	BG09 - 1028 Meroo Road, Meroo Meadow	Earthworks	31/08/2020	13:16	53.0	<ul style="list-style-type: none"> No construction works in the immediate vicinity, several LV's and trucks using the Meroo construction zone as a turnaround point Local traffic on Meroo Road
23	L8 - 24 Abernethys Lane, Meroo Meadow	Earthworks	14/08/2020	8:25	56.0	<ul style="list-style-type: none"> Workers on foot in the area, some conversing near to monitor LVs driving near to monitor Traffic from Princes Highway the dominant noise source.

EPA ID No.	Location description	Construction activity	Date	Time	L(A) _{eq} 15min	Comments
24	BG10 - 35 Gardenia Crescent, Bomaderry	No construction works in the vicinity	31/08/2020	14:12	47.6	<ul style="list-style-type: none"> • Quiet residential street with minimal noise aside from the distant hum of the Princes Highway Traffic
25	BG11 - 38 Elvin Drive, Bomaderry	Earthworks	31/08/2020	13:41	63.1	<ul style="list-style-type: none"> • Traffic from Princes Highway the dominant noise source. • Vac truck operating on opposite side of the Princes Highway audible during breaks in traffic

7 ENVIRONMENTAL COMPLAINTS

No environmental complaints were received in August 2020