



ENVIRONMENT PROTECTION LICENCE NO: 21029

May 2020 Monthly Report

FOR

**Princes Highway Upgrade
between Berry and Bomaderry**

Document control

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1 INTRODUCTION

The Downer Seymour Whyte Joint Venture (DSWJV) is contracted by Roads and Maritime Services (Roads and Maritime) to upgrade 10.3 kilometres of the Princes Highway between Mullers Lane (south of Berry) and Cambewarra Road, Bomaderry in New South Wales (NSW) (the Project). The project will provide a four-lane divided highway (two lanes in each direction) with median separation.

The project is one of a series of upgrades to sections of the Princes Highway which aims to provide a four-lane divided highway between Waterfall and Jervis Bay Road, Falls Creek. This would improve road safety and traffic efficiency, including for freight, on the NSW South Coast.

Figure 1 provides an overview of the project location.

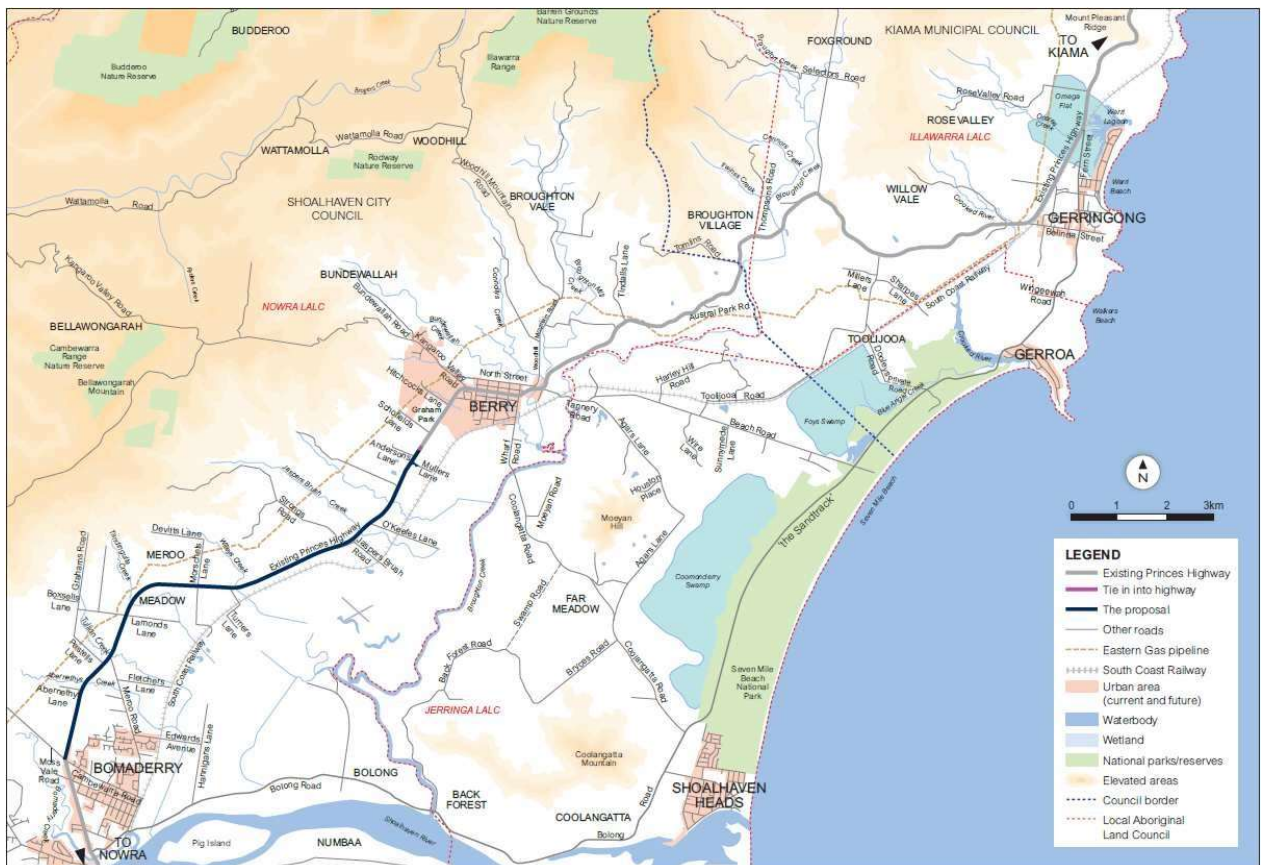


Figure 1-1 Project location

This report provides the results of monitoring undertaken during May 2020 as required by the project’s Environment Protection Licence (EPL 21029) Condition R4.1.

2 NON-COMPLIANCES

No non-compliances occurred against EPL conditions during the month of May.

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 May 2020 are provided in Table 3-1 and Figure 3-1 below.

Table 3-1 May 2020 Rainfall monitoring results

| Location | Monthly rainfall recorded (mm) |
|--|--------------------------------|
| Ison Lane, Jaspers Brush (RMS automatic weather station) | 73.8 |

May experienced a total of 73.8mm rainfall recorded at the project specific weather station at Ison Lane, Jaspers Brush (RMS automatic weather station). The weather during May was wetter than average as the long-term mean expected rainfall is 47.6 mm for May as taken from the Nowra RAN Air Station Bureau of Meteorology Weather Station (Station Number 068076).

From May 22 to May 26 (5 days), 50.0mm of rainfall fell exceeding the design 5 day rainfall event specified in condition L2.5 of the EPL of 48.2mm.

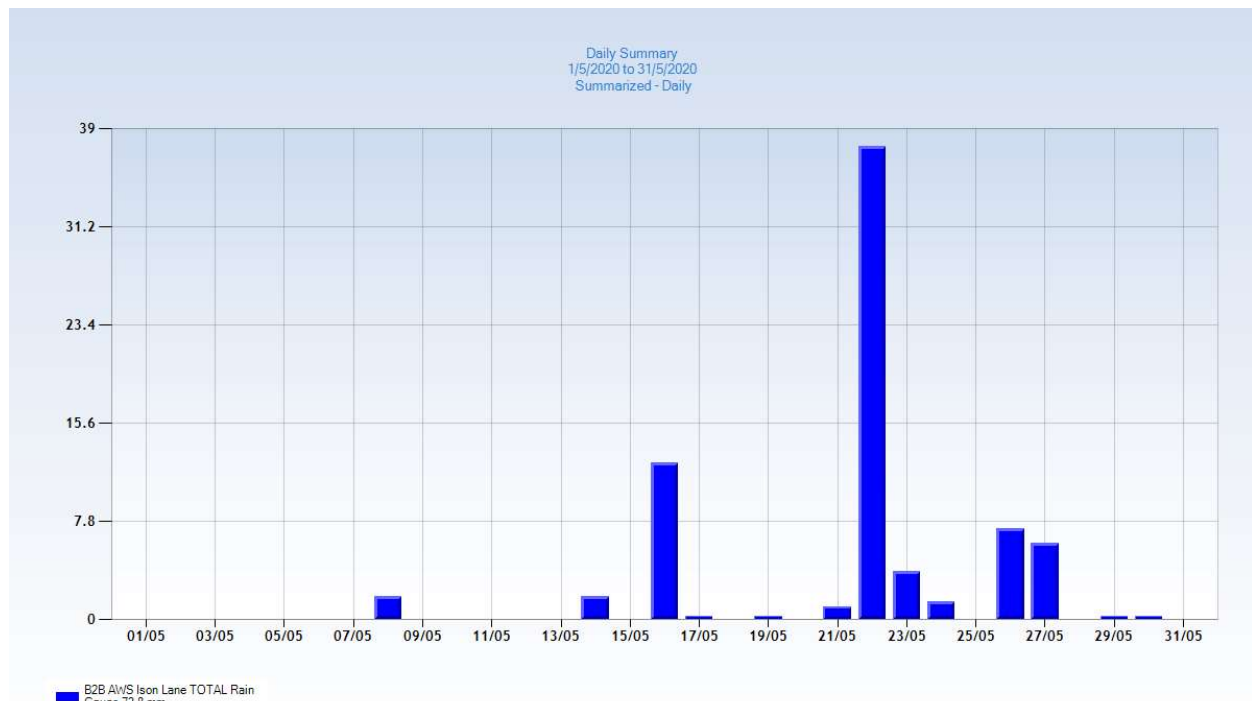


Figure 3-1 May Rainfall Results from Ison Compound Weather Station

Mild conditions prevailed during May with several days experiencing high wind speeds. The predominant wind direction for May was from the WSW. The highest wind gust recorded was 87.6 km/h and the maximum wind speed was 50.1 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.

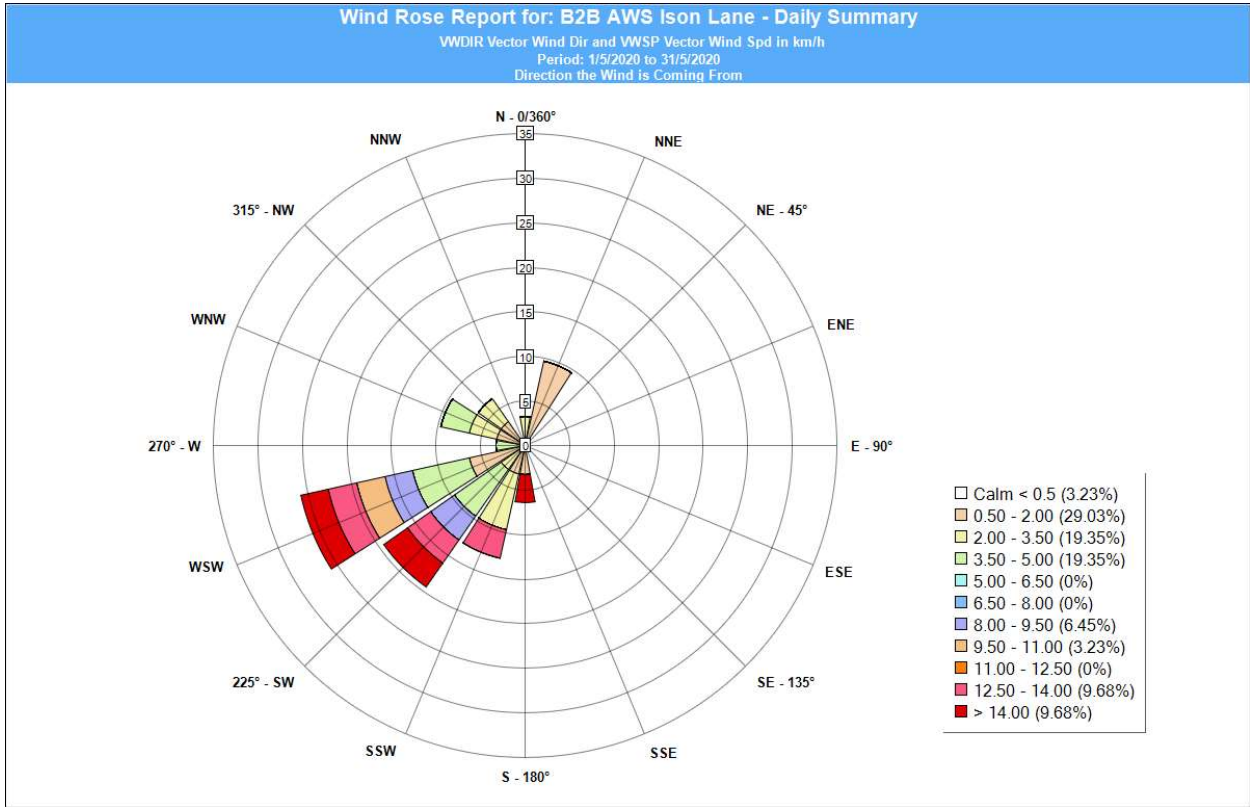


Figure 3-2 May 2020 Wind Rose Results from Ison Lane Compound Weather Station. Average Wind direction and Average Wind Speed shown.

4 SEDIMENT BASIN DISCHARGE

Sixteen sediment basins and one discharge point were licensed under the EPL during May 2020.

On the 20th of June 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 May 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 | 06/05/20 | 7 | 50 | None visible |
| | | 28/05/20 | 7 | 70 | None visible |
| PB24.45.N | B660 Princes Highway | 27/05/20 | 8 | 40 | None visible |
| TB21.15.N | Opposite O'Keefes Lane | No discharges in May 2020 | | | |
| TB21.50.N | Opposite Jaspers Brush Road | 28/05/20 | 7.5 | 60 | None visible |
| TB21.70.S | Intersection at Jaspers Brush Road | 27/05/20 | 7 | 30 | None visible |
| TB21.90.S | Jaspers Brush Ancillary Site | 25/05/20 | 7 | 20 | None visible |
| TB22.10.N | Strongs Road | No discharges in May 2020 | | | |
| TB22.25S | Opposite Strongs Road | 19/05/20 | 7.5 | 40 | None visible |
| TB22.30.N | South of Strongs Road | No discharges in May 2020 | | | |
| TB22.65.S | Opposite Ison Lane | 06/05/20 | 7 | 60 | None visible |
| | | 27/05/20 | 7 | 40 | None visible |
| TB22.65N | North of Ison Lane | 25/05/20 | 7.5 | 20 | None visible |
| | | 29/05/20 | 7 | 20 | None visible |
| TB22.80.N | Ison Compound | 01/05/20 | 7 | 10 | None visible |
| TB23.60N | South of Ison Lane | 27/05/20 | 7.5 | 50 | None visible |
| TB25.10.N | Devitts Lane | 04/05/20 | 8 | 20 | None visible |
| TB26.15S | North of Tandingulla Creek | 28/05/20 | 7.5 | 60 | None visible |
| TB28.90.N | Abernethy's Lane | 04/05/20 | 7 | 60 | None visible |
| | | 30/05/20 | 7 | 40 | None visible |
| CH27.81N | Pestells Lane | No discharges in May 2020 | | | |

5 AIR MONITORING RESULTS

Dust deposition gauges for the project were installed on 17 April 2020 and changed on 19 May 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).

There were no exceedances of the monthly target of 4g/m²/month at any monitoring locations during the month of May, all monitoring points also remain below the rolling average of the annual criteria.

Table 5-1 May 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 | 0.6 | 0.3 | 0.8 | 3.9 |
| 2-DDG B | 10A Jaspers Brush Road, Jaspers Brush | 1.9 | 0.3 | 2.2 | 2.7 |
| 3-DDG C | 20C Strongs Road, Jaspers Brush | 1.0 | <0.1 | 1.0 | 2.3 |
| 4-DDG D | 10C Jaspers Brush Road, Jaspers Brush | 1.2 | 0.2 | 1.4 | 3.2 |
| 5-DDG E | 30 Ison Lane, Jaspers Brush | 0.3 | <0.1 | 0.3 | 1.0 |
| 6-DDG F | Lot 209 DP 1210788 | 1.4 | 0.1 | 1.5 | 2.1 |
| 7-DDG H | 10 Lamonds Lane, Meroo Meadow | 0.9 | 0.3 | 1.2 | 2.8 |
| 8-DDG I | 19 Boxsells Lane, Meroo Meadow | 0.4 | 0.1 | 0.5 | 1.7 |
| 9-DDG J/K | 265 Princes Highway, Meroo Meadow | 0.8 | 0.7 | 1.5 | 3.0 |
| 10-DDG L | 1028 Meroo Meadow, Meroo Meadow | 1.1 | 0.2 | 1.3 | 3.4 |
| 11-DDG M | 32 Elvin Drive, Bomaderry | 1.0 | 0.8 | 1.8 | 3.1 |
| 12-DDG N | 9 Devitt's Lane, Meroo Meadow | 0.9 | 0.1 | 1.0 | 1.8 |
| 13-DDG P | 24 Abernethys Lane, Meroo Meadow | 0.8 | 0.4 | 1.2 | 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 or very good for the month of May with several days of fair conditions.

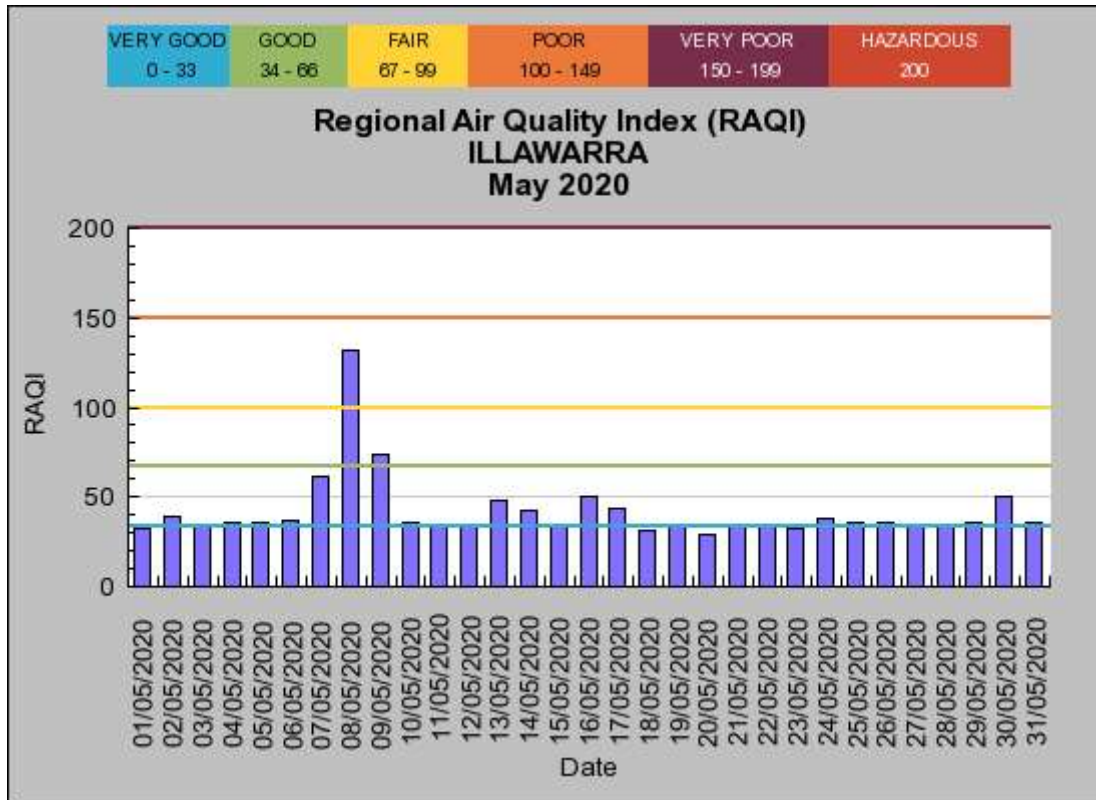


Figure 5-1: Regional Air Quality Index for May from the nearest OEH air quality monitoring stations – Illawarra (NSW OEH).

6 NOISE MONITORING RESULTS

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

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

Table 6-1 May 2020 Noise Monitoring Results

| EPA ID No. | Location description | Construction activity | Date | Time | L(A) _{eq} 15min | Comments |
|------------|--------------------------------------|--|---------|-------|--------------------------|--|
| 15 | L1 - B210 Princes Highway, Jaspers | Earthworks | 29/5/20 | 13:21 | 59.2 | <ul style="list-style-type: none"> Traffic from Princes Highway the dominant noise source. Multiple heavy vehicle movements as trucks exited the highway and entered the construction site via Croziers Road. |
| 16 | L2 - 20C Strongs Road, Jaspers Brush | Rock crushing, screening and hammering | 29/5/20 | 12:56 | 62.7 | <ul style="list-style-type: none"> Constant traffic from Princes Highway the main noise source. Intermittent hammering from excavator, reversing beeper from trucks in work area on opposite side of the highway. |

| EPA ID No. | Location description | Construction activity | Date | Time | L(A) _{eq} 15min | Comments |
|------------|--|---|---------|-------|--------------------------|--|
| 17 | L3 - 30 Ison Lane, Jaspers Brush | Furnishings | 30/5/20 | 12:25 | 52.4 | <ul style="list-style-type: none"> Traffic from Princes Highway the dominant noise source. Some intermittent construction trailer sounds (e.g. truck and dog trailer banging, reversing squawker) |
| 18 | L5 - 15 Turner Lane, Jaspers Brush | Bridgeworks/ Earthworks | 28/5/20 | 7:25 | 61.8 | <ul style="list-style-type: none"> Constant traffic from the Princes Highway the dominant noise source. Several cars passing on Turners Lane. <p>Workers observed on Wileys Creek Bridge, several heavy vehicles exiting site onto the highway opposite Turners Lane.</p> |
| 19 | L6 - B710 Princes Highway, Jaspers Brush | Drainage | 29/5/20 | 13:05 | 61.0 | <ul style="list-style-type: none"> Excavator digging batter drain from Devitts Lane bridge the dominant noise source. |
| 20 | L7 - 310C Princes Highway, Jaspers Brush | No construction works within the vicinity | 29/5/20 | 14:27 | 58.8 | <ul style="list-style-type: none"> Princes Highway traffic the main noise source |
| 21 | BG08 - 19 Boxsells Lane, Meroo Meadow | Drainage | 29/5/20 | 13:33 | 64.3 | <ul style="list-style-type: none"> Princes Highway traffic the dominant noise source. Excavator digging drainage line. |
| 22 | BG09 - 1028 Meroo Road, Meroo Meadow | Bridgeworks | 29/5/20 | 14:46 | 56.7 | <ul style="list-style-type: none"> Princes Highway traffic the main noise source. Truck turning in Meroo Road work area. |
| 23 | L8 - 24 Abernethys Lane, Meroo Meadow | Earthworks | 29/5/20 | 11:55 | 60.8 | <ul style="list-style-type: none"> Import of material into the area, truck and dogs tipping and grader spreading material. |
| 24 | BG10 - 35 Gardenia Crescent, Bomaderry | No construction works within the vicinity | 29/5/20 | 14:08 | 46.0 | <ul style="list-style-type: none"> Quiet residential street, distant hum of highway traffic. |
| 25 | BG11 - 38 Elvin Drive, Bomaderry | No construction works within the vicinity | 29/5/20 | 11:29 | 64.5 | <ul style="list-style-type: none"> Princes Highway traffic the main noise source |

7 ENVIRONMENTAL COMPLAINTS

| Complaint Details | Required timeframe for response (G36) | Date / time complaint received | Actions & date completed | Status / timing |
|--|---|--------------------------------|--|----------------------------------|
| <p>Resident on Lamonds Lane.</p> <p>Complaint resulted from the noise of a reversing beeper on a water cart filling up from a hydrant on a Sunday.</p> | <p>24 hours – response (email)</p> <p>5 days resolution</p> | <p>10/5/20 – 12:20PM</p> | <p>The activity was covered under an approved OOHW permit however the need for reversing in the location had not been considered.</p> <p>On receiving the complaint, the water cart was instructed to cease use of the filling location.</p> | <p>Addressed within 24 hours</p> |