



Warrell Creek to Nambucca Heads Pacific Highway Upgrade Project

ENVIRONMENT PROTECTION AUTHORITY MONTHLY REPORT

July 2018

Pacifico Project Number: WC2NH



A team consisting of RMS and Pacifico (ACCIONA Ferrovial JV) to upgrade the Pacific Highway at Warrell Creek to Nambucca Heads

Contents

| | |
|---|-----------|
| 1. Introduction | 2 |
| 1.1 Description of Works..... | 2 |
| 2. Weather | 3 |
| 2.1 Discussion..... | 4 |
| 3. Surface Water Monitoring | 8 |
| 4. Sediment Basin Water Monitoring | 8 |
| 5. Noise Monitoring | 8 |
| 6. Vibration Monitoring | 9 |
| 7. Dust Monitoring | 9 |
| 8. Groundwater Monitoring | 9 |
| 9. Acoustic Investigations | 9 |
| 10. Complaints | 10 |
| 10.1 Summary of Complaints for the month of May 2018..... | 10 |
| 11. Non-Compliance | 11 |
| 11.1 Summary of Non-compliances..... | 11 |

1.0 Introduction

Environmental Protection Licence (EPL) 20533 was issued to ACCIONA Infrastructure for the Warrell Creek to Nambucca Heads Pacific Highway Upgrade project on the 16th December 2014. Condition R1.8 of the EPL requires the licensee to provide the EPA with a monthly report containing the following information:

- a) details of all non-compliances with the conditions of this licence and measures taken, or proposed, to prevent a recurrence of such a non-compliance; and
- b) details of all discharges from the sediment basins where the water quality results exceed the limits prescribed by Condition L2.4 including the results of rainfall measurements to demonstrate compliance with Condition L2.5; and
- c) details of results of any acoustic investigation made in relation to Condition L4.2d); and

The report referred to in this condition must be received by the EPA within 10 working days of the end of each month.

This document has been prepared to fulfil the requirements of Condition R1.8.

1.1 Description of Works

The project's construction activities during July 2018 included the following:

- The WC2NH project stage 2b (Scott Head Road to Browns crossing) opened to traffic from 29th June 2018.
- Rehabilitation (permanent design seed mix)
- Concrete Lined Drains and turnouts
- Clean up of RMS residual land
- Permanent visual mounds
- Artefact reburial
- Line Marking
- Basin Maintenance including dewatering and desilting
- Installation and maintenance of Erosion and Sediment Controls
- Pavement (Asphalt and Concrete)
- Clean up of Precast Facility site
- Operation of asphalt batch plant
- Fauna fencing

Works scheduled for next month includes the following:

- Rehabilitation (permanent design seed mix)
- Fauna fencing
- Basin Maintenance including dewatering and desilting
- Permanent Basin Fit-out

- Third party sampling and remediation (where required) of RMS extra land
- Concrete Lined Drains
- Maintenance of Erosion and Sediment Controls
- Pavement (Asphalt and Concrete)
- Line marking
- Decommissioning of the asphalt batch plant

1.2 Consultation Activities

The project’s consultation activities during July 2018 included the following:

Table 1 – Consultation Activities

| Groups | Date | Key Topics |
|-----------|-------------|---|
| Toolboxes | Fortnightly | Environmental and community issues communicated to the workforce. |
| RMS | Fortnightly | Communications look ahead, stakeholder issues. |

Other Consultation Activities:

The following notifications were made to the community during July 2018.

- Road closure at Browns Crossing Rd and the southern interchange
- Traffic changes at the southern interchange
- Traffic changes at Scotts Head Road
- Traffic changes at the southern off ramp\Traffic changes along Giinagay Way

On-site meetings:

- 5 onsite meetings were held with community members in July 2018 regarding proposed property adjustments, boundary fencing, out of hours work, construction impacts, vegetation, flooding and other various matters.

At House Noise Treatments

The at house noise treatment program is currently being managed by RMS and is not part of the ACCIONA (Pacifico) Scope of Works and Technical Criteria.

Upcoming Community and stakeholder activities:

- Bald Hill Road roundabouts traffic changes
- Bald Hill Road partial closure notification
- Property adjustment works, liaising with stakeholders for fencing and driveway works
- Responding to community issues and concerns

2.0 Weather

2.1 Discussion

The automatic recording weather stations at the main site compounds (North and South) records rainfall totals daily at 9AM. The total rainfall received for the month is summarized below:

Table 2 – Rainfall recorded at the two weather stations operated by Pacifico

| July Rainfall (1/07/2018 – 31/07/2018) | | |
|--|------------------------|---------------------|
| Location | Total monthly rainfall | Total days rainfall |
| Northern Compound | 40.4 mm | 10 |
| Albert Drive Compound (South) | 38.2 mm | 6 |

Rainfall received on site was lower than the July monthly average of 76 mm. A summary of weather conditions recorded over the month for Smoky Cape by the Bureau of Meteorology is detailed below in Table 2.3.

Daily summaries for rainfall received in July 2018 at the Albert Drive Compound and Northern Compound are shown below in Table 2.1 and 2.2.

Table 2.1 – Rainfall recorded at Albert Drive Southern Compound Automated Weather Station**July 2018**

| Date | Time | TOTAL Rain Gauge (mm) |
|-------------|-------------|------------------------------|
| 1/07/2018 | 9:00 AM | 0.2 |
| 2/07/2018 | 9:00 AM | 15.2 |
| 3/07/2018 | 9:00 AM | 14.6 |
| 4/07/2018 | 9:00 AM | 2.4 |
| 5/07/2018 | 9:00 AM | 5.6 |
| 6/07/2018 | 9:00 AM | 0 |
| 7/07/2018 | 9:00 AM | 0 |
| 8/07/2018 | 9:00 AM | 0 |
| 9/07/2018 | 9:00 AM | 0 |
| 10/07/2018 | 9:00 AM | 0 |
| 11/07/2018 | 9:00 AM | 0 |
| 12/07/2018 | 9:00 AM | 0 |
| 13/07/2018 | 9:00 AM | 0 |
| 14/07/2018 | 9:00 AM | 0.2 |
| 15/07/2018 | 9:00 AM | 0 |
| 16/07/2018 | 9:00 AM | 0 |
| 17/07/2018 | 9:00 AM | 0 |
| 18/07/2018 | 9:00 AM | 0 |
| 19/07/2018 | 9:00 AM | 0 |
| 20/07/2018 | 9:00 AM | 0 |
| 21/07/2018 | 9:00 AM | 0 |
| 22/07/2018 | 9:00 AM | 0 |
| 23/07/2018 | 9:00 AM | 0 |
| 24/07/2018 | 9:00 AM | 0 |
| 25/07/2018 | 9:00 AM | 0 |
| 26/07/2018 | 9:00 AM | 0 |
| 27/07/2018 | 9:00 AM | 0 |
| 28/07/2018 | 9:00 AM | 0 |
| 29/07/2018 | 9:00 AM | 0 |
| 30/07/2018 | 9:00 AM | 0 |
| 31/07/2018 | 9:00 AM | 0 |

Table 2.2 – Rainfall recorded at the Northern Compound Automated Weather Station**July 2018**

| Date | Time | TOTAL Rain Gauge (mm) |
|-------------|-------------|----------------------------------|
| 1/07/2018 | 9:00 AM | 0 |
| 2/07/2018 | 9:00 AM | 0 |
| 3/07/2018 | 9:00 AM | 0.2 |
| 4/07/2018 | 9:00 AM | 0 |
| 5/07/2018 | 9:00 AM | 0.8 |
| 6/07/2018 | 9:00 AM | 0.2 |
| 7/07/2018 | 9:00 AM | 0 |
| 8/07/2018 | 9:00 AM | 0.4 |
| 9/07/2018 | 9:00 AM | 15.8 |
| 10/07/2018 | 9:00 AM | 14.2 |
| 11/07/2018 | 9:00 AM | 4 |
| 12/07/2018 | 9:00 AM | 5.6 |
| 13/07/2018 | 9:00 AM | 0 |
| 14/07/2018 | 9:00 AM | 0 |
| 15/07/2018 | 9:00 AM | 0.2 |
| 16/07/2018 | 9:00 AM | 0 |
| 17/07/2018 | 9:00 AM | 0 |
| 18/07/2018 | 9:00 AM | 0 |
| 19/07/2018 | 9:00 AM | 0 |
| 20/07/2018 | 9:00 AM | 0.2 |
| 21/07/2018 | 9:00 AM | 0 |
| 22/07/2018 | 9:00 AM | 0 |
| 23/07/2018 | 9:00 AM | 0 |
| 24/07/2018 | 9:00 AM | 0 |
| 25/07/2018 | 9:00 AM | 0 |
| 26/07/2018 | 9:00 AM | 0 |
| 27/07/2018 | 9:00 AM | 0 |
| 28/07/2018 | 9:00 AM | 0 |
| 29/07/2018 | 9:00 AM | 0 |
| 30/07/2018 | 9:00 AM | 0 |
| 31/07/2018 | 9:00 AM | 0 |

Table 2.3: July Weather conditions reported at the Smoky Cape by the Bureau of Meteorology Station (ID: 059030)**July 2018**

| Date | Minimum temperature (°C) | Maximum temperature (°C) | Rainfall (mm) |
|-------------|---------------------------------|---------------------------------|----------------------|
| 1/07/2018 | 12.5 | 13 | 2 |
| 2/07/2018 | 12.5 | 14.8 | 28 |
| 3/07/2018 | 11 | 16.8 | 67.4 |
| 4/07/2018 | 12.1 | 19 | 9.8 |
| 5/07/2018 | 14 | * | 10 |
| 6/07/2018 | * | 22 | 0 |
| 7/07/2018 | 14.8 | 23 | 0 |
| 8/07/2018 | 9.5 | 19.8 | 0 |
| 9/07/2018 | * | 19.4 | 0 |
| 10/07/2018 | 12.8 | 19.1 | 0 |
| 11/07/2018 | 11.6 | 18.9 | 0 |
| 12/07/2018 | 12.1 | 19.8 | 0 |
| 13/07/2018 | 11 | 16.9 | 0 |
| 14/07/2018 | * | 19.2 | 0 |
| 15/07/2018 | 11 | 20.1 | 0 |
| 16/07/2018 | 11.5 | 20.2 | 0 |
| 17/07/2018 | 13.2 | 22 | 0 |
| 18/07/2018 | 14.6 | 22.9 | 0 |
| 19/07/2018 | 16.8 | * | 0 |
| 20/07/2018 | 15 | * | 0 |
| 21/07/2018 | * | 22.1 | 0 |
| 22/07/2018 | 9.5 | 19.3 | 0 |
| 23/07/2018 | 11 | 21.5 | 0 |
| 24/07/2018 | 13.9 | 23 | 0 |
| 25/07/2018 | 16.6 | 24.1 | 0 |
| 26/07/2018 | 13.4 | 21.7 | 0 |
| 27/07/2018 | 13.5 | 22.9 | 0 |
| 28/07/2018 | 14 | 22 | 0 |
| 29/07/2018 | 16 | 22 | 0 |
| 30/07/2018 | 13.1 | 20 | 0 |
| 31/07/2018 | 12.7 | 22 | 0 |

Note: * No data recorded

3.0 Surface Water Monitoring

RMS is responsible for surface water quality monitoring post opening of the project to traffic (29th June 2018).

4.0 Sediment Basin Water Monitoring

Water was released from commissioned basin B49.45 on the 4th July and B42.80 on the 6th and 9th of July following a 5-day rainfall total of 38 mm (as recorded at the Southern Compound Weather Station).

A summary of discharge volumes and water quality from the release events are detailed in **Table 3**.

Table 3 – Water Release Register July 2018

| Date | Basin ID | Oil and Grease (visible: Y/N) | pH | Turbidity (NTU) | TSS (mg/L) | Approx. Discharge Volume (kL) |
|-----------|----------|----------------------------------|---------|-----------------|---------------|-------------------------------------|
| | | | 6.5-8.5 | Limit <85 NTU | Limit <50mg/L | |
| 4/07/2018 | B49.45 | N | 6.61 | 4.4 | - | 900 |
| 6/07/2018 | B42.80 | N | 7.31 | 49.6 | - | 500 |
| 9/07/2018 | B42.80 | N | 7.33 | 46.5 | - | 300 |

A statistical correlation has been developed which identified the relationship between Turbidity (NTU) and Total Suspended Solids (TSS) for water quality in the WC2NH Project sediment basins in order to determine the NTU equivalent of 50mg/L TSS. This statistical correlation has been developed to meet EPL Licence No 20533 Condition L2.7 to determine compliance with the Water and/or Land Concentration Limits Condition L2.4. A positive correlation has been calculated between Total Suspended Solids (TSS) and Turbidity (NTU) ($R^2 = 0.4941$, $p < 0.00001$, $n=227$). The regression equation for the analytical results calculates a turbidity (NTU) value of 120.716 for a TSS value of 50mg/L. A safety factor of 30% has been applied to the NTU result of the correlation, providing a turbidity (NTU) value of 84.50, rounded to an NTU value of 85. To measure NTU in the field a Horiba U-52G multi-parameter water quality meter has been utilised, which is maintained and calibrated in accordance with manufacturer's specifications.

TSS sampling is being undertaken to ensure compliance with 1 in 10 sampling to validate the correlation. Previous TSS validation occurred in April 2018, further to an additional 5 release events.

AFJV has requested EPA for consent to decommission both B49.45 and B42.80 during the reporting period, these are the two last remaining commissioned sediment basins on the project.

5.0 Noise Monitoring

During the operational phase of the project noise monitoring is conducted as required for Out of Hours (OOH) works. All out of hours works undertaken during the monitoring period had community agreements and as such no Out of Hours noise monitoring was required in the July monitoring period. No out of hours noise complaints were received.

6.0 Vibration Monitoring

Vibration monitoring was not undertaken in the July monitoring period.

7.0 Dust Monitoring

Dust deposition gauges (DDG) were collected at 11 nearby sensitive receivers on 29th June 2018. Laboratory results are summarised in Appendix A, Table 1.

All dust deposition gauges were below the level of concern for Total Insoluble Matter (TIM) and Ash Content (AC) ($4\text{g/m}^2/\text{month}$ or increase of $2\text{g/m}^2/\text{month}$) during the monitoring period except for DDG3, which had a TIM of $4\text{g/m}^2/\text{mth}$ and an increase in TIM $> 2\text{g/m}^2/\text{mth}$. The potentially construction related contribution, Ash Content was $2.2\text{g/m}^2/\text{mth}$. Low rainfall during the month and the Boral Quarry activities are also potential contributors to the increase in Ash Content. Stage 2B opened on 29th June 2018, so future contributions from the project are considered negligible.

Based on the scope of works post opening of the project, the dust monitoring locations have been reduced to three sampling locations (DDG 6, DDG 7 and DDG10), as approved by the ER on the 1st August 2018 as a minor change to the Air Quality Management Plan (Rev 9).

8.0 Groundwater Monitoring

RMS is responsible for groundwater quality monitoring post opening of the project to traffic (29th June 2018).

9.0 Acoustic Investigations

All Out of Hours Works undertaken during the month of July 2018 had a written agreement with potentially affected residents. No complaints were received.

10.0 Complaints

10.1 Summary of Environmental Complaints for the month of July 2018

One (1) complaint was received during the reporting period.

On 19 July 2018 a phone call was received by the project claiming that their car was damaged (broke left side mirror, under door sill and wheel alignment) after hitting a traffic bollard that was in the middle of the lane of the southern contra flow. Due to the nature and extent of the claim PACIFICO advised that the claimant should discuss with their insurance company.


11.0 Non-Compliance

11.1 Summary of Non-compliances

No Non-compliances were raised against ACCIONA's Environmental Protection Licence during the month of July 2018.

Appendix A – Monitoring Results

Table 1 – Dust Monitoring Results June 2018

| Monthly Dust Monitoring Results June 2018 | | | | | | | | | | | | | | | |
|---|----------------|-------------------------|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
|  | | | | | | | | | | | | | | | |
| | | | DDG ID | DDG1 | DDG2 | DDG3 | DDG4 | DDG6 | DDG6N | DDG7 | DDG8A | DDG9NE | DDG9E | DDG10 | |
| | | | Start date of sampling | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | 31/05/2018 | |
| | | | Finish date of sampling | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | 29/06/2018 | |
| Analyte | Time Period | Unit | Levels of Concern | LOR | | | | | | | | | | | |
| Ash Content | Current Month | g/m ³ .month | 4 | 0.1 | 1.3 | 0.3 | 2.2 | 0.2 | 0.2 | 0.6 | 0.3 | 0.1 | 0.4 | 0.3 | 0.9 |
| | | mg | N/A | 1 | 22 | 5 | 37 | 4 | 4 | 10 | 5 | 2 | 7 | 5 | 16 |
| | Previous Month | g/m ³ .month | | | 1.5 | 0.1 | 0.5 | 0.2 | 0.4 | 0.8 | 0.5 | 0.2 | 0.3 | 1.3 | 2.1 |
| | Change | g/m ³ .month | Increase of 2 | | -0.2 | 0.2 | 1.7 | 0 | -0.2 | -0.2 | -0.2 | -0.1 | 0.1 | -1 | -1.2 |
| Combustible Matter | Current Month | g/m ³ .month | N/A | 0.1 | 0.1 | 0.3 | 0.2 | 1.8 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.3 | 0.1 |
| | | mg | N/A | 1 | 6 | 4 | 31 | 2 | 3 | 4 | 1 | 3 | 2 | 3 | 1 |
| Total Insoluble Matter (TIM) | Current Month | g/m ³ .month | 4 | 0.1 | 1.6 | 0.5 | 4 | 0.4 | 0.4 | 0.8 | 0.4 | 0.3 | 0.5 | 0.5 | 1 |
| | | mg | N/A | 1 | 28 | 9 | 68 | 6 | 7 | 14 | 6 | 5 | 9 | 8 | 17 |
| | Change | g/m ³ .month | Increase of 2 | 0.1 | -0.4 | 0.2 | 3.2 | 0.2 | -0.9 | -0.7 | -0.3 | -0.3 | -0.1 | -1.1 | -1.3 |