Construction Compliance Report:

28 November 2019 – 27 May 2020

M4-M5 Link Mainline Tunnels

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Internal review

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Review		Environment & Sustainability Manager	11/08/2020	
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Abbreviations/Glossary

Abbreviation	Expanded text
AA	Acoustic Advisor
ACHMP	Aboriginal Cultural Heritage Management Sub-Plan
AQMP	Air Quality Management Sub-Plan
CCR	Construction Compliance Report
CCS	Community Complaint Strategy
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Monitoring Program
CSSI	Critical State Significant Infrastructure
CoA	Conditions of approval
CTEAP	Compliance Tracking and Environmental Audit Program
DDMP	Depositional Dust Monitoring Program
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance.
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
FFMP	Flora and Fauna Management Sub-Plan
GMP	Groundwater Management Sub-Plan
GWMP	Groundwater Monitoring Program
HV	Heavy Vehicle
Incident	An occurrence or set of circumstances that causes, or threatens to cause, material harm to the environment, community or any member of the community, being actual or potential harm to the health or safety of human beings or to threatened species, endangered ecological communities or ecosystems that is not trivial.
ISO	International Organisation for Standards
LSBJV	Lendlease Samsung Bouygues Joint Venture

Abbreviation	Expanded text
Minister, the	Minister of the NSW Department of Planning and Environment (or delegate)
NAHMP	Non-Aboriginal Heritage Management Sub-Plan
NCA	Noise Catchment Area
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation.
NSW	New South Wales
NZS	New Zealand Standard
NVMP	Noise and Vibration Management Sub-Plan
OOHW	Out of hours works
PBR	Pyrmont Bridge Road civil and tunnel site
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
PREW	Parramatta Road East and West civil sites
Project, the	M4-M5 Link Mainline Tunnels
Roads and Maritime	Roads and Maritime Services
SPIR	Submissions and Preferred Infrastructure Report
SSTV	Site Specific Trigger Value
SSWMP	Soil and Surface Water Management Sub-Plan
SWQMP	Surface Water Quality Monitoring Program
TDS	Total Dissolved Solids
TfNSW	Transport for New South Wales
TTAMP	Traffic, Transport and Access Management Sub-Plan
VMP	Vehicle Movement Plan
WMP	Waste Management Sub-Plan

1 Introduction

1.1 Background

WestConnex is one of the NSW Government's key infrastructure projects which aims to ease congestion, create jobs and connect communities. The 33-kilometre WestConnex motorway will link Sydney's west and south-west with the Sydney Central Business District, Sydney Airport and Port Botany. WestConnex is one component of an integrated solution to meet Sydney's growing transport and infrastructure needs and is consistent with NSW Government transport and planning policies and strategies.

The project was declared by Ministerial Order to be State Significant Infrastructure (SSI) and Critical State Significant Infrastructure (CSSI), under Section 5.12 (4) and Section 5.13 (previously referred to as 115U(4) and 115V prior to amendment of the *Environmental Planning and Assessment Act 1979* (EP&A Act)) as well as under clause 16 of the State Environmental Planning Policy (State and Regional Development) 2011. The project remains subject to assessment under the EP&A Act and requires the approval of the NSW Minister for Planning. The proposal is critical State significant infrastructure by virtue of Schedule 5, clause 4 of State Environmental Planning Policy (State and Regional Development) 2011.

An Environmental Impact Statement (EIS) (AECOM 2017) was prepared and placed on public exhibition from 18 August 2017 to 16 October 2017. Submissions were received from government, agencies, organisations and the public in repose to the project. A Submissions and Preferred Infrastructure Report (SPIR) was prepared by Roads and Maritime (now TfNSW) in response to submissions received during the exhibition period. The Project was approved by the Minister for Planning on 17 April 2018.

Subsequently, a Project Modification report (AECOM, September 2018) was prepared and placed on public exhibition for 14 days from 12 September 2018. The Project Modification was approved by the Minister for Planning on 25 February 2019 and the Minister's conditions of approval were also modified

1.2 Project Description

The WestConnex M4-M5 Link project is being constructed in two stages:

- Stage 1 (the Project and subject of this document): M4-M5 Link Mainline tunnels
- Stage 2: Rozelle interchange.

WestConnex Transurban has engaged Lendlease Samsung Bouygues Joint Venture (LSBJV) to design and construct Stage 1 of the project. The key features of the Mainline tunnel project include:

- Twin mainline motorway tunnels between the M4 East at Haberfield and the New M5 at St Peters. Each tunnel would be around 7.5 kilometres long and would generally accommodate up to four lanes of traffic in each direction
- Connections of the mainline tunnels to the M4 East project, comprising:
    - A tunnel-to-tunnel connection to the M4 East mainline stub tunnels east of Parramatta Road near Alt Street at Haberfield
    - Entry and exit ramp connections between the mainline tunnels and the Wattle Street interchange at Haberfield (which is currently being constructed as part of the M4 East project)
    - Minor physical integration works with the surface road network at the Wattle Street interchange including road pavement and line marking

- Connections of the mainline tunnels to the New M5 project, comprising:
    - A tunnel-to-tunnel connection to the New M5 mainline stub tunnels north of the Princes Highway near the intersection of Mary Street and Bakers Lane at St Peters
    - Entry and exit ramp connections between the mainline tunnels and the St Peters interchange at St Peters (which is currently being constructed as part of the New M5 project)
    - Minor physical integration works with the surface road network at the St Peters interchange including road pavement and line marking
- Construction of tunnel stubs to provide for future underground connection of the mainline tunnels to the Rozelle interchange and Iron Cove Link
- A motorway operations complex at St Peters (Campbell Road) (MOC5). The types of facilities that would be contained within the motorway operations complexes would include substations, water treatment plants, ventilation facilities and outlets (the Campbell Road ventilation facility), offices, on-site storage and parking for employees
- Tunnel ventilation systems, including ventilation supply and exhaust facilities, ventilation fans, ventilation outlets and ventilation tunnels
- Fitout (mechanical and electrical) of part of the Parramatta Road ventilation facility at Haberfield (which is currently being constructed as part of M4 East project) for use by the M4-M5 Link project
- Drainage infrastructure to collect surface and groundwater for treatment at dedicated facilities
- Water treatment would occur at the operational water treatment facility at the Campbell Road motorway operations complex (subject to future Modification)
- Ancillary infrastructure and operational facilities for electronic tolling and traffic control and signage (including electronic signage)
- Emergency access and evacuation facilities, including pedestrian and vehicular cross and long passages and fire and life safety systems
- Utility works, including protection and/or adjustment of existing utilities, removal of redundant utilities and installation of new utilities
- Temporary construction ancillary facilities to facilitate construction of the project at the following locations:
    - Northcote Street civil and tunnel site (C3a), Haberfield
    - Haberfield civil site (C2b), Haberfield
    - Parramatta Road East civil site (C3b), Haberfield
    - Parramatta Road West civil site (C1b), Ashfield
    - Wattle Street civil and tunnel site (C1a), Haberfield
    - Pyrmont Bridge Road tunnel site (C9), Camperdown/Annandale
    - Campbell Road civil and tunnel site (C10), St Peters

An overview of the project footprint and ancillary facilities is presented in the Construction Environmental Management Plan (CEMP). Further detail of the project description is presented in Section 1.3 of the CEMP.

1.3 Purpose of this report

This Construction Compliance Report (CCR) has been prepared to address Minister's Condition of Approval (CoA) A33 of the planning approval.

This CCR documents compliance for the reporting period for all works undertaken on the WestConnex M4-M5 Link Mainline Tunnels from 28 November 2019 to 27 May 2020.

As part of the Compliance Tracking and Environmental Audit Program (CTEAP), this CCR has been prepared in accordance with CoA A33 (refer to Table 1-1) to report on the compliance status of the Project every six months during the construction phase.

Table 1-1 CoA requirements for this CCR

CoA no.	Requirement	Reference
A33	Construction Compliance Reports must be prepared and submitted to the Secretary for information every six (6) months from the date of the commencement of construction for the duration of construction. The Construction Compliance Reports must include:	This Document
	(a) a results summary and analysis of environmental monitoring;	Section 5
	(b) the number of any complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints;	Section 4.9
	(c) details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting period;	Section 2.4
	(d) a register of any consistency assessments undertaken and their status;	Section 2.3.1
	(e) results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit;	Section 4.8
	(f) a summary of all incidents notified in accordance with Conditions A40 and A42 of this approval; and	Section 4.1
	(g) any other matter relating to compliance with the terms of this approval or as requested by the Secretary.	Section 4.6

2 Project Delivery

2.1 Staging

As stated in the EIS Chapter 6 (Construction Work) and previously in Section 1.2, the M4-M5 Link Project will be constructed and opened to traffic in two stages.

Stage 1 can be summarised to include:

- Construction of mainline tunnels between the M4 East at Haberfield and the New M5 at St Peters, stub tunnels to the Rozelle interchange (at the Inner West subsurface interchange) and ancillary infrastructure at Campbell Road motorway operations complex (MOC5)
- These works commenced in 2018 with the mainline tunnels open to traffic in 2023. At the completion of Stage 1, the mainline tunnels would operate with two traffic lanes in each direction. This would increase to generally four lanes at the completion of Stage 2, when the full project is operational.

Stage 2 can be summarised to include:

- Construction of the Rozelle interchange including:
    - Connections to the stub tunnels at the Inner West subsurface interchange (built during Stage 1)
    - Ancillary infrastructure at the Rozelle West motorway operations complex (MOC2), Rozelle East motorway operations complex (MOC3) and Iron Cove Link motorway operations complex (MOC4)
    - Connections to the surface road network at Lilyfield and Rozelle
    - Construction of tunnels, ramps and associated infrastructure as part of the Rozelle interchange to provide connections to the proposed future Western Harbour Tunnel and Beaches Link project
- Stage 2 works commenced in mid 2019 with these components of the project open to traffic in 2023.

The total construction period for the Project is programmed to occur across five years, which includes commissioning that would occur concurrently with the final stages of construction.

A more detailed description of how the Project would be constructed is provided in Chapter 6 (Construction Work) of the EIS.

LSBJV, TfNSW and WestConnex Transurban together are responsible for compliance with the requirements of the CoA. However, LSBJV is responsible for maintaining the CTEAP for the Project and for the preparation of six-monthly Construction Compliance Reports throughout construction as required by CoA A33.

2.2 Timing

Construction on the Project began in late November 2018 and is proposed to continue until Q1 of 2023. Key aspects of the construction program include:

- Site establishment and construction commenced late 2018
- Tunnel construction commenced late Q1 2019
- Mechanical and electrical fit out work to commence Q2 2021
- Testing and commissioning to commence Q4 2022.
- Project to open Q1 2023

2.3 Planning Approvals

2.3.1 Consistency Assessments

A total of three consistency assessments were determined by TfNSW under the CSSI project planning approval during the reporting period.

A register of consistency assessment during the reporting period is provided in Table 2-1.

Table 2-1 Consistency Assessment Register

Title	Status	Date Determined
St Peters Interchange Heavy Vehicle numbers and 2020 layout (CA15)	Determined Consistent	28/01/2020
Albert Street – Stage 1 (CA23)	Determined Consistent	6/03/2020
Hawthorne Canal Grouting Facility (CA12)	Determined Consistent	05/03/2020
REMM FD04 Requirement (CA27)	Determined Consistent	25/05/2020

2.4 Construction Environmental Management Plan Reviews / Amendments

Table 2-2 details the CEMP reviews and amendments during the reporting period.

Table 2-2 CEMP reviews and amendments

Relevant Plan	Review / Amendment	Revision No.	Approval Date
CEMP Main Body	Minor administrative updates submitted to the ER for approval, including: • Amendment to description of PBR Offices • Removal of 'No formal regulatory warning' objective from Table 3-2. • Inclusion of LLE Environment and Sustainability Manager notification • Amendment to Incident management and reporting procedure	15	26/01/2020
	Update for DPIE approval: Footprint for Hawthorne Canal grouting	16	Retracted
	Minor administrative updates submitted to the ER for approval, including: • Inclusion of site layout plan for surface grouting work in Appendix A8 • Project risk assessment relating to the surface grouting work at Hawthorne Canal	17	9/03/2020
	Minor administrative updates submitted to the ER for approval, including: • St Peters Interchange layout updated to include Albert Street (Stage 1) and the 'interim' land Inclusion of the site layout for the Haberfield Civil site (PRVF)	18	8/04/2020
	Minor update involving a layout change to PREW to include the M&E transfer facility. Submitted to the ER for approval.	19	12/05/2020

Relevant Plan	Review / Amendment	Revision No.	Approval Date
Traffic, Transport & Access Sub-Plan (TTAMP)	Minor updates related to additional SPI access and egress following the determination of Consistency Assessment 15 as well as the change of heavy vehicle numbers; changes to the haul route between PBR and SPI and use of Euston Road. Submitted to ER for approval.	27	12/02/2020
	Submission to DPIE for the traffic assessment of Hawthorne Canal and the proposed layout of the site.	31	2/03/2020
	Minor updates submitted to the ER for approval, including: • Inclusion of a map showing Route A and restrictions from MCoA E49, 49B(a), E49C and E49D. • Provision included to allow oversized vehicles to use access or egress locations in reverse to that intended for safety or operations reasons. • Other minor wording and administrative changes.	32	14/03/2020
	Update submission to DPIE for the use of Learmonth Street (Haberfield) as a two-way heavy vehicle access to the Hawthorne grouting site, due to the Inner West Council road works on Cresent and Boomerang Str.	34	17/04/2020
Soil & Surface Water Sub-Plan (SSWMP)	Minor update submitted to the ER for approval, regarding the removal of the site-specific trigger value for electrical conductivity.	09	28/04/2020

3 Compliance Management

LSBJV, TfNSW and WestConnex Transurban are together responsible for compliance with the Project's requirements detailed in the CoA. Refer to the CTEAP for further information on how LSBJV manages and tracks compliance with the planning approval throughout construction.

A variety of activities are undertaken to ensure that compliance is managed effectively on the Project. These compliance management activities are summarised in Table 3-1.

Table 3-1 Compliance Management Activities

Activity	Responsibility	Frequency
Ongoing site surveillance	LSBJV	Daily
Site Inspections	LSBJV Environmental Representative (ER)	Weekly Fortnightly
Environmental compliance status update with relevant delivery owners	LSBJV	As required
Environmental risk assessment review	LSBJV	Annual
Environmental and sustainability auditing	LSBJV Independent Auditor ER	Annual Annual As requested by Secretary
Environmental management reviews	LSBJV	Six-Monthly CEMP Reviews

Following Project planning approval, compliance with the requirements contained in the CoA are regularly monitored by the LSBJV.

Regular meetings are held with the relevant Project CoA delivery owners to review applicable requirements and assess the environmental compliance status. These meetings allow LSBJV to ensure ongoing compliance. Where requirements are deemed to be compliant, evidence is collected and verified by LSBJV.

3.1 Construction Environmental Management System

The environmental management system (EMS) is the primary system to manage and control the environmental aspects of the Project during early works, site establishment and construction. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative requirements are fulfilled.

The LSBJV EMS is based on the Lendlease Engineering ISO14001 Certified EMS (period of registration 06/03/2019 to 6/03/2022), which was adapted to address Project and joint venture requirements.

The CEMP is the primary system to manage and control the environmental aspects of the Project during construction. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled.

The strategies defined in the CEMP have been developed with consideration of the Project approval requirements, safeguards and mitigation measures presented in the environmental assessment and approval documents. The CEMP establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the Project on the environment.

The CTEAP is part of a suite of environmental management documents prepared for the Project. The CTEAP is administered by the Environment and Sustainability Manager or delegate for the duration of the Project.

4 Compliance Performance

4.1 Incidents

In accordance with CoA A40 to A43, incidents which cause or threaten to cause material harm to the environment, community or health and safety will be notified to the Environment Protection Agency (EPA) and Secretary. Actual and potential material harm incidents during the reporting period are detailed in Table 4-1.

All incidents reported to the Secretary and EPA to date have been as a courtesy rather than a statutory trigger.

Table 4-1 Material Harm Incidents during the reporting period

Incident Type	Description	Site	Immediate Actions / Control Measures	Corrective Actions
Nil	Nil	Nil	Nil	Nil

Traffic and spills related incidents remain the two most frequent incident categories across the Project. Refer to Figure 4-1 for a breakdown of the incidents by issue.

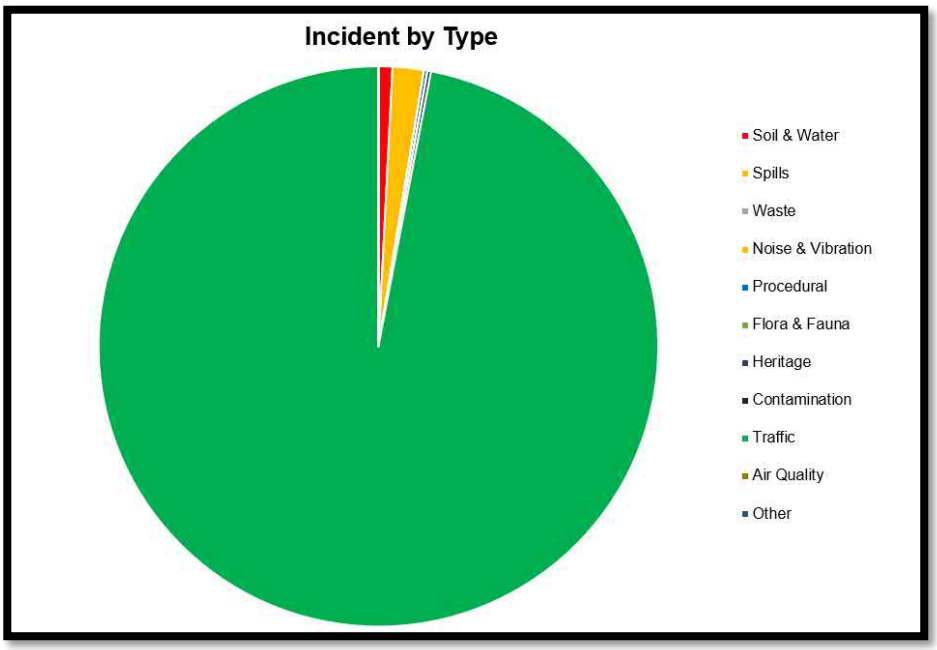

Figure 4-1 Environmental Incidents by Type

4.2 Traffic

Traffic incidents comprised 97% of incidents (refer to Figure 4-1) and predominately involved heavy vehicles using the 'Route A' loop outside of the approved hours (MCoA E49B(a)) to access the Northcote ancillary facility. The number of traffic-related incidents increased since the previous six monthly CCR and remains a key focus for the Project to resolve. These incidents were recorded as non-conformances against the TTAMP and are discussed in Section 4.6.

4.3 Spills

During the reporting period, spills comprised 2% of all incidents by type (refer to Figure 4-1) and involved minor spills which were immediately contained, cleaned up and disposed of appropriately. No actual environmental impact occurred as result of the spills.

The number of spills incidents occurring across the project has remained consistent between reporting periods. In response to this, several spill prevention and response management procedure toolboxes have been rolled out across the project, as well as chemical storage and appropriate storage.

4.4 Soil and Water

Two of the Soil and water incidents were related to the water treatment plant at Pyrmont Bridge Road (PBR) and at the St Peters Interchange (SPI) where elevated zinc and copper levels above the EPL discharge criteria (EPL L2.4) was observed. It was noted the elevated zinc and copper levels detected were less than the median value of those contaminants observed within the respective receiving waterways. A further two soil and water related incidents involved the discharge of treated surface water from SPI in excess of the EPL criteria (EPL L2.4) for total suspended solids (TSS) due to an extraneous total suspended solids / turbidity correlation, and a truck and dog losing spoil on Campbell Road due to the accidental opening of the truck's tailgate.

4.5 Pollution Incident Response Plan review

As the holder of EPL 21149, the Project is required to develop a 'Pollution Incident Response Management Plan' (PIRMP) to identify and manage the risk of pollution incidents and facilitate a coordinated management response to pollution incidents during the construction phase of the Project. As per the Protection of the Environment Operations (General) Regulation 2009 (POEO(G) Regulation) the licensees must test the Plan on an annual basis.

During the previous reporting period, the PIRMP was tested and from this exercise it was identified that the PIRMP required updating. PIRMP Rev 2 was approved on the 6th of December 2019, and included the following amendments:

- Each Project site's discharge outlet point into the local waterways was to be identified clearly on a map;
- Update to the emergency response chain of communication / hierarchy;
- Inclusion of parent company key contacts in the emergency response list.

The following action items for onsite spill management were also identified:

- A review of spill kits and materials at each site to ensure suitable materials were available for the containment and clean-up of both chemical and hydrocarbon spills
- Additional live spill response training to identify which materials can and cannot be used for different types of spills
- Review of site drainage to identify potential paths for spills to travel offsite
- Clarification on the chain of communication when reporting spills and pollution incidents

All action items were carried out across all Project sites and closed out during this reporting compliance period.

4.6 Non-Conformances

Non-conformances (NCRs) were identified during the reporting period. These non-conformances were against the requirements of the CEMP and sub-plans, the Community Complaint Strategy (CCS), the Environment Protection Licence (EPL). Refer to Table 4-2 for a breakdown of non-conformances by the most relevant Project document.

Table 4-2 Non-Conformances against the Project Documents

Project Document	Date of NCRs	Description of NCR	Corrective Action
EPL	29th November 2019	In accordance with EPL Condition L2.5 a statistical correlation for NTU and TSS has been developed for each of Project's ancillary facilities. Samples are taken every 10th discharge to ensure the correlation remains up to date. A 40% safety factor was applied with a discharge limit of 62 NTU adopted on site. Water was discharged with a 56 NTU on the 29th of November, and a sample of the same water was sent to the laboratory for TSS analysis. Results from the lab analysis indicated that the NTU of the water exceeded the EPL criteria, TSS 50mg/L.	Upon identifying the exceedance, the EPA were notified of the incident. The NTU discharge limit was lowered to 50 NTU / a ~50% safety factor. Additional sampling for TSS was also undertaken to ensure the NTU-TSS correlation is representative of current site conditions
	10th January 2020	Monthly sample results from the PBR Water Treatment Plant (WTP) were received and zinc was identified to be above the EPL Discharge Criteria (EPL L2.4). It should be noted however that the zinc level was less than the median value of the receiving water.	Upon identifying the exceedance, the EPA were notified of the incident. Discharge to stormwater from the WTP ceased immediately and excess water was transported to a wastewater facility. The WTP operators adjusted the pH dosing rate to address the issue, and the second round of samples received were compliant.
	9th March 2020	SPI's monthly WTP samples were received and it was identified that copper exceeded EPL Discharge criteria (EPL L2.4). It should be noted that the measured copper was less than the median copper level of the receiving waterway.	Upon identifying the exceedance, the EPA were notified of the incident. Discharge to stormwater from the WTP ceased immediately and all excess water was retained onsite until the treated water from WTP could be found to be compliant with the EPL Discharge criteria (EPL L2.4).
Community Communication Strategy	22nd January 2020	A community complaint was received on the 15th of January 2020 via email and was automatically filed in the junk mailbox. As a result of this, the Project failed to respond to the complaint within 8 business days in accordance with the Community Communication Strategy (CCS Section 8.5).	Once discovered, the complainant was immediately contacted and a meeting with the stakeholder was organised to resolve their complaint. Going forth the community team has been regularly monitoring the junk folder to ensure all complaints are identified and responded to within the required timeframe, as it was found that the automatic junk-filing function cannot be turned off.
Traffic and Transport and Access Management Sub-Plan	4th December 2019	A community complaint was received by the Project in regard to truck and dogs looping around the Northcote site via Ramsay Road prior to 7am. This is a non-compliance against MCoA E49B(a).	All haulage company supervisors attended Northcote the following day and were reminded of the importance to adhere to their allocated times.

Project Document	Date of NCRs	Description of NCR	Corrective Action
Traffic and Transport and Access Management Sub-Plan	21st January 2020	A Truck and dog used a local road with 3t limit to travel to PBR (Northumberland Ave). The local road is within 1km of the PBR site. This is a non-compliance against MCoA E49.	This was the first incident from the driver, and the haulage subcontractor was contacted. All spoil haulage companies were reminded of the requirement to comply with traffic road rules, and a vehicle management plan (VMP) between PBR and SPI has been developed and distributed to the subcontractors. The Chain of Responsibility (CoR) team has increased the physical monitoring of trucks in breach of the approved VMP. As a result, another truck driver who was identified to be non-compliant in multiple operational areas of the Project was dismissed.
	31st January 2020	The Project received an email from the DPIE Compliance Branch regarding mud tracking on Parramatta Road. Subsequent investigations found that an oversized vehicle had been required to exit via the entry driveway of Northcote. This is a non-compliance against MCoA C4a.	Due to the nature of the incident and no actual environmental damage incurred, the DPIE determined to record the breach without any further action. LSBJV has since revised the TTAMP and provided provision to allow oversized vehicles to use access or egress locations in reverse to that intended for safety or operations reasons.
	8th May 2020	A complaint was received stating that spoil haulage trucks had been operating on 'Route A' loop prior to 7:00am. This is a non-compliance against MCoA E49B(a). Investigations were undertaken and the complainant's statement were found to be correct including on some subsequent days, as per below: 1. 8th of May – 7 Truck and dogs utilised Route A loop prior to 7:00am 2. 9th of May – 27 Truck and dogs 3. 11th of May – 19 Truck and dogs 4. 12th of May – 25 Truck and dogs The use of the Route A loop prior to 7am was found to be a result of the change of load management processes, which were causing delays in the loading of the Trucks and dogs onsite.	On the 16th of June, LSBJV on behalf of the parent companies responded to the DPIE Notice to Furnish Information and Records. The response to the Notice outlined the details of the incident and previous, and the corrective actions which have since been implemented (including those below) and what will be in the near coming future. <u>Corrective actions related to this incident include</u>: Those haulage subcontractors responsible for the breach(s) were contacted immediately and advised to use the longer loop to return to Northcote (ie. not Route A). Truck bookings have since been spaced out until the new loading process is running more efficiently onsite. Additionally, the number of trucks booked during the morning shoulder has been reduced. Further correspondence was initiated with the spoil haulage contractors to remind them of their obligations to comply with Project routes.
	21st May 2020	Between 5 and 6:30am six (6) Truck and dogs entered Burrows Road south of Canal Road and stopped in this location whilst waiting to enter SPI. This is a non-compliance against MCoA E49.	The responsible haulage company was notified of the breach and reminded of their driver's responsibility to not use local roads within 1km of the site. The company was also informed that any driver caught in breach of the MCoA E49 will be given a first and final warning. Any breach after the warning will result in dismissal from the Project. The VMP was provided to the haulage company, which specifically stated that the Truck and dogs are not to enter Burrows Road (south of Canal Road).
	21st to 22nd May 2020	On the 21st and the 22nd of May four (4) trucks in total used the Route A loop prior to 7am. This is a non-compliance against MCoA E49B(a).	Upon identified of the breach, all Truck and dog drivers were immediately stood down for the remainder of the day and received their fist and final warning from the Project. They were also reminded that any further breach of MCoA E49B(a) would result in dismissal from the Project.

Project Document	Date of NCRs	Description of NCR	Corrective Action
Traffic and Transport and Access Management Sub-Plan	26th May 2020	On the 26th of May, LSBJV's parent companies (Lendlease, Samsung and Bouygues) each received a Notice to Furnish Information and Records from the DPIE in response to the Route A non-conformances. During a deep review of historical data in response to the DPIE's Notice to Furnish Information and Records it was identified that LSBJV's spoil haulage tracking system was not set up in a way so as to detect the use of Route A by unladen spoil vehicles that have looped around the block. The data showed that between 6 June 2019 and 8 June 2020 some 690 unladen spoil vehicles had used the route prior to 7am which is a non-compliance against MCoA E49B(a).	Contractual letters have been sent out to the Haulage Companies reminding them of their obligation to ensure that their drivers are trained on the Vehicle Movement Plans (VMPs) and that the use of Route A prior to 7am and after 7pm is strictly forbidden. Drivers were advised that future breaches will result in a first and final warning, and/or result in dismissal. A driver compliance register has been established to ensure that any future non-compliances are easily identified so that disciplinary action can take place as needed. GPS geofence amendments have been put in place to trigger push notification alerts from Virtual Superintendent to the Traffic Manager should a non-conformance be detected.

4.7 Environmental Representative Inspections

The Project Environmental Representative (ER) conducted 12 environmental inspections and raised 19 issues and 44 positive findings during the reporting period. Note in line with the advice of the NSW Government's Health Department, the number of sites visited during the Coivd-19 pandemic were reduced as well as the number of people involved. Figure 4-2 provides a breakdown of issue type raised during the fortnightly ER inspections.

ER inspections are assigned a Road and Maritime 'traffic light' status as an indicator of the overall environmental performance and effectiveness of site management measures. Table 4-3 provides definitions of the different Roads and Maritime inspection statuses. During the reporting period, the Project received 100% 'Green' inspection results (refer to Table 4-4).

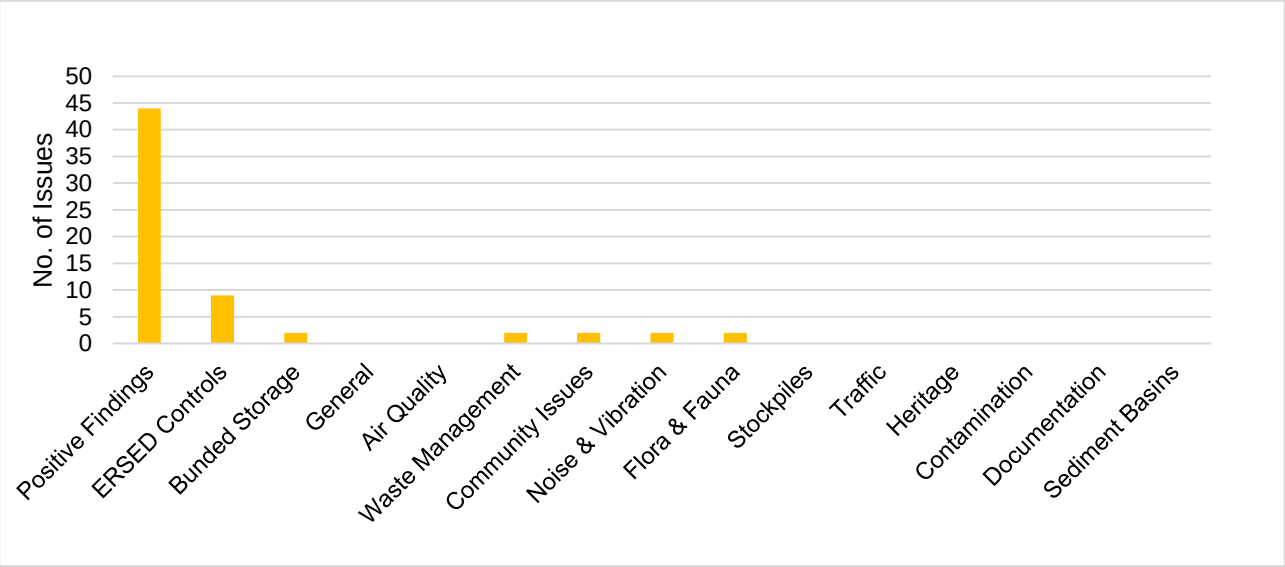

Figure 4-2 ER Inspection Issues by Type

Table 4-3 Roads and Maritime Environment Inspection Status

Status	Definition
Red	• Actions required to address urgent risk issues. • Satisfactory actions not taken for high risk issues identified on the previous inspection. • A Category 1 incident has been identified during the inspection.
Amber	• Actions required to address high and/or medium risk issues. • Satisfactory actions not taken for previous medium or low risk issues on the previous inspection.
Green	• Actions required to address low risk issues that will not directly cause environmental harm. • Site demonstrates good environmental management with no action required to avoid environmental harm.

Table 4-4 ER Inspection Status during the Reporting Period

ER Inspection Results												
Roads and Maritime Traffic Light Indicator	X	X	X	X	X	X	X	X	X	X	X	X
ER Inspection Date	28 Nov 19	16 Dec 19	9 Jan 20	20 Jan 20	6 Feb 20	21 Feb 20	5 Mar 20	19 Mar 20	8 April 20	29 April 20	13 May 20	27 May 20

4.8 Environmental Independent Audits

During the reporting period two independent audits were carried out and focused on the Project's management of spoil and traffic. The findings of both audits and action raised are detailed as per below in Table 4-5 .

Table 4-5 Spoil Management on the Project (16th of December 2019) by Hutchinson and Weller

Compliance Document Ref.	Finding Classification	Finding Description	Actual Close out Action	Close Out Date
TTAMP (Section 4.7.1) **WMP (Section 5.2.5)** **CoA A44, E52, E53, E202-204**	**Non-Conformances (NCR's)**	None were identified		
	Observation of Concern (OOC)	None were identified		
	Opportunities for Improvement (OFI)	The development of truck by-pass routes for both PBR and Northcote	The PBR by-pass route is yet to approved by the DPIE and forms part of TAMP Rev 36	Remains Open
		The Northcote by-pass route needs to consider the 7am-7pm restriction of using Ramsay Street.	TTAMP (Rev 32) includes a map showing the Route A loop and MCoA E49B(a) restrictions. Refer to Table 2-2.	14/03/2020

Compliance Document Ref.	Finding Classification	Finding Description	Actual Close out Action	Close Out Date
		The implementation of conditional formatting in the Spoil register which would automatically identify when the total volume of spoil received by a disposal site is close to reaching the approved amount.	The conditional formatting of the spoil register has been implemented.	19/03/2020

Table 4-6 Environmental Compliance Audit (4th – 5th May 2020) by Dickson Environmental Consulting & Audit

Compliance Document Ref.	Finding Classification	Finding Description	Audit Required Action	Actual Close out Action	Close Out Date
CTEAP (Section 3.7) **CEMP (Section 3.9.3; 3.10)** **TTAMP** **CoA A33, A37-39, C20, C49, E43-48, E50-54, E56-**	**Non-Conformances (NCR's)**	Evidence was not available to demonstrate that DPIE was notified of breaches to the MCoA within 3 working days as per the requirements in the CEMP section 3.10. Non-conformances identified by the auditor to have not been reported to DPIE at the time of the audit include: EIR 014; EIR 015; EIR 017; EIR 019; EIR 021; EIR 022; EIR 023; EIR 024; EIR 025; EIR 035; EIR 036; EIR 037; EIR 039; EIR 041; EIR 042; EIR 049.	LSBJV along with WCX and TfNSW are in the process of agreeing on an appropriate notification strategy, for incidents resulting in a non-compliance with Project Conditions of Approval. This process will be implemented moving forward, and the CEMP updated if required.	A revised CEMP has been prepared removing the reference to the 3-day period for notification, which is not a Project requirement, and will be sent to the Environmental Representative for approval.	Revised CEMP yet to be approved.

Compliance Document Ref.	Finding Classification	Finding Description	Audit Required Action	Actual Close out Action	Close Out Date
57, E61-62, E122 **REMM TT01, TT04, TT07-09, TT10-TT16, TT18**		Fourteen (14) breaches have been recorded against MCoA E49 in the LSBJV Incident and Non-Conformance Register. 8 of these have been reported in the Construction Compliance Report 2 (CCR2) May 2019 – 27 Nov 2019 as non-conformances against the CEMP and sub-plans. One further breach has been reported since the issue of CCR2.	No action required – all actions have already been taken to address the causes as part of internal corrective action process. Report only. However breaches will need to be notified to DPIE as per process outlined in CEMP section 3.10.	All breaches have been notified to TfNSW in accordance with the RMS Incident RMS Environmental Incident Classification and Reporting Procedure. *For clarity, none of these incidents triggered the definition of 'Incident' as defined in the Conditions of Approval (i.e. Material Harm).* The CEMP has been updated as per above. The EIRs related to this audit finding are described in Table 2 below. Detailed comments on each non-compliance, including action taken to remedy the non-compliances can be found in the relevant Environmental Incident Report (EIR).	None applicable
		A breach to Condition E49B was recorded on the 4/12/2019 in the Environmental Incident & Non-conformance Register. Trucks were noted to be using Ramsay Rd prior to 7am, which is not permitted by Condition E49B(a). Other breaches to this condition have also been identified for April and May 2020.	No action required – actions have already been taken to address the cause as part of internal corrective action process. Report only. However breaches will need to be notified to DPIE as per process outlined in CEMP section 3.10.		None applicable

Compliance Document Ref.	Finding Classification	Finding Description	Audit Required Action	Actual Close out Action	Close Out Date
	Observation(s)	TTAMP section 5.10 states that "For incidents with environmental impacts, the Incident Management Plan (IMP) will refer to the process outlined in the Pollution Incident Response Management Plan (PIRMP) to ensure appropriate process is followed for environmental impacts of these spills". A review of the IMP found that there is no reference to the PIRMP.	The Incident Management Plan is to be updated and make reference to the Pollution Incident Response Management Plan.	The Incident Management Plan was updated and makes reference to the Pollution Incident Response Management Plan.	2/06/2020
		Whilst a Spoil Truck Driver Information Booklet, and VMPS are provided internally, and a Code of Conduct was available from contracted haulage suppliers, evidence of presentation and acknowledgment of the Drivers Code of Conduct as referenced in the TTAMP was not available.	Each spoil truck company has a standard Code of Conduct internally. A new driver code of conduct will be prepared incorporating the detail in TTAMP section 4.6 and included in the Project induction.	In draft.	Remains Open

Compliance Document Ref.	Finding Classification	Finding Description	Audit Required Action	Actual Close out Action	Close Out Date
	Opportunities for Improvement (OFI)	TTAMP section 5.10 states that the Traffic Control Room (TCR) will operate 24 hours a day, 7 days a week while affecting the road network and traffic systems. The wording in the document appears to imply that personnel would be within the TCR during these hours, however “operating” 24x7 includes various strategies including remote monitoring using a phone app, and personnel being “on-all” as well as physically manning the TCR.	Wording of the TTAMP to be revised to reflect the actual processes in place for operating the TCR and monitoring traffic.	The rewording of section 5.10 will be incorporated into TTAMP Rev 37. This is currently still in draft and yet to be submitted for approval.	Remains Open

4.9 Complaints

The Project received a total of 151 complaints during the reporting period. Of these, 16 were identified as not related to the Project but were still investigated and logged.

Refer to Figure 4-3 for a breakdown of the complaints by month and issue. The number of complaints received has increased in line with the extent of the Project works.

Of the 135 Project-attributed complaints received, the three most frequent complaint issues were noise (49%), worker behaviour (10%), and truck parking (8%). The nature of the complaints received has seen a slight change, where 11% of complaints during the previous reporting period were vibration related. This has been replaced with worker behaviour. Responses to these complaint issues are discussed in Section 4.9.1.

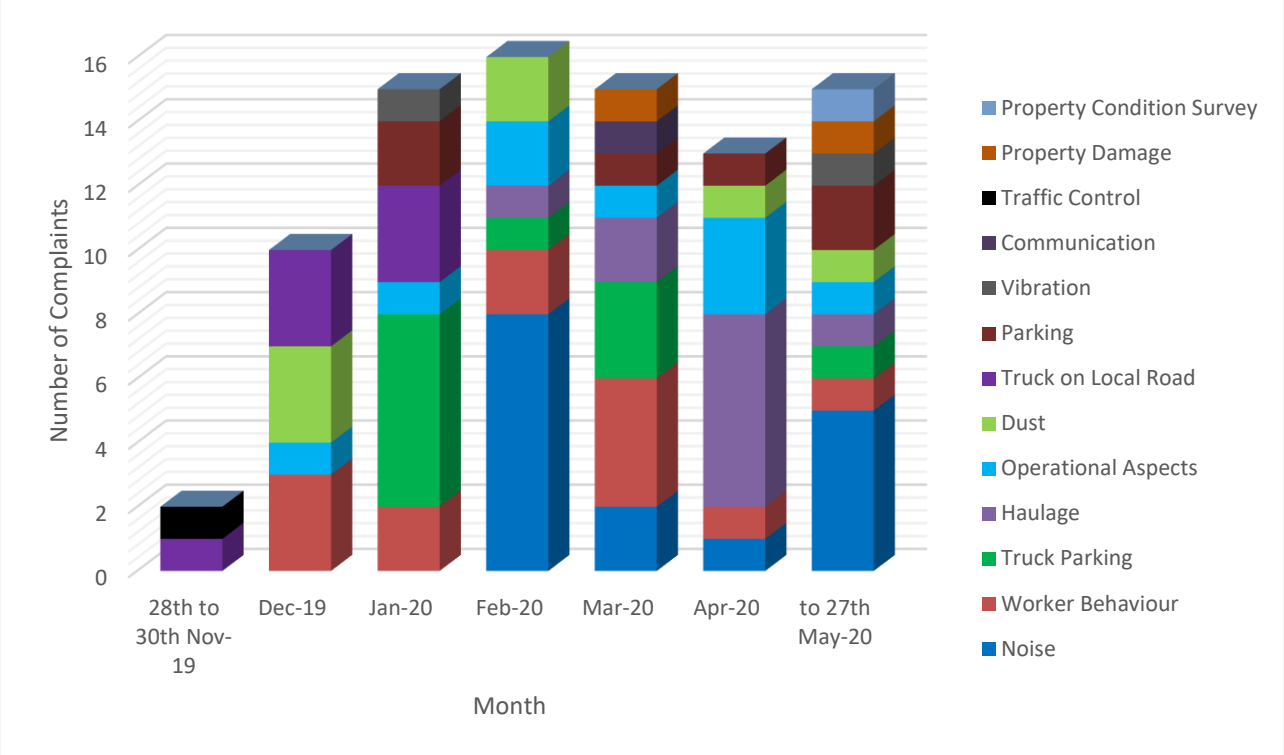

Figure 4-3 Project Attributed Complaints Received by Month and Issue

4.9.1 Complaint Management

4.9.1.1 Noise

Noise related complaints were predominately received about ground-borne noise impacts from tunnelling works (51). Other works resulting in complaints included:

- Light vehicles accessing Alt Street Carpark;
- Trucks exiting the project site at Annandale;
- Trucks driving through Wattle Str, Haberfield and Great North Road, Five Dock;
- Idling Project Trucks;

- Noise from the Project Street Sweeper;
- Project vehicles driving over a pothole in Annandale;
- Volume of car radio too loud.

Actions taken to address the issues raised included:

- Offering and carrying out noise monitoring to validate predicted and actual noise impacts;
- Offering respite measures where applicable e.g. noise cancelling headphones and alternative accommodation;
- Implementing noise mitigation measures at the source including such as noise blankets;
- Provide specific notification to impacted residents including details about duration and approval of work activities;
- Providing additional regular updates on work progress;

  Tool boxing workers on noise mitigation measures and project expectations.

4.9.1.2 Worker Behaviour

All 13 complaints received about worker behaviour were related to allegations of Project vehicles running red lights; not adhering to the speed limits or driving erratically. A vehicle being left unattended; a worker smoking near someone's property and a project site being left untidy.

Actions taken to address issued raised included:

- Reviewing speed records and location of heavy vehicles to check compliance and issuing warnings; contractual letters or taking disciplinary action such as removal of drivers from the project that do not comply with requirements and rules;
- Tool boxing workers and contractor on acceptable behaviours when working close to properties and businesses, as well as the need to comply with project requirements and overarching road rules;
- Tidying up a worksite.

4.9.1.3 Truck Parking

Majority of complaints were identified to be related to trucks parking along Parramatta Road in Annandale, and on Euston in St Peters.

Actions taken to address issued raised included:

- Use of the Project's GPS system to check if and where spoil trucks were stopping;
- Reviewing spoil haulage logistics to reduce prevalence of trucks having to stop at Parramatta Road including staggering truck start times; increasing physical and remote surveillance; purchasing a larger loader to improve loading efficiency and implementing a go round loop.
- Providing regular updates of Vehicle Movement Plans to all contractors to ensure they understand allowed haulage and access routes.

4.9.1.4 Other Complaints

Actions taken to address other various complaints (refer to Figure 4-3) include:

- Using the Project's GPS system to check if vehicles are complying with vehicle movement plans, haulage and access routes;
- Providing regular updates of Vehicle Movement Plans to contractors to ensure they understand approved haulage and access routes;
- Issuing warning and contractual letters and other disciplinary actions including removal of drivers from the project that do not comply with requirements and rules;
- Clarifying which spoil haulage routes are approved or specific approved hours for specific routes, and explaining difference between unladen vs loaded spoil vehicles
- Implementing additional dust mitigation measures such as increased frequency of water cart use; installation of water misters, and stopping work during windy conditions;
- Installing 'no parking' signage, and periodically and proactively inspecting the location of a recurring parking complaint(s);
- Reminding and reprimanding workers and contractors that do not comply with parking requirements;
- Carrying out vibration monitoring to check predicted and actual impacts;
- Offering meetings and where accepted meeting with residents to further explain work activities; timelines; approvals and mitigation measures;
- Advising nearby projects of complaints related to their work;
- Confirming appropriate pest control measures have been taken on site;
- Consulting with impacted stakeholders about the need for surface grouting work at Hawthorne Canal;
- Consulting with stakeholders about the Urban Design and Landscape Plan;
- Rescheduling property condition survey appointments.

5 Environmental Monitoring

In accordance with CoA C9, environmental construction monitoring programs have been prepared and implemented on the Project to monitor the following impacts:

- Surface water quality – CoA C9(a)
- Groundwater – CoA C9(b)
- Noise and Vibration – CoA C9(c)
- Dust Deposition – CoA C9(e)

5.1 Surface Water Quality

In accordance with the Surface Water Quality Monitoring Program (SWQMP), surface water monitoring was undertaken monthly and quarterly following a wet weather event during the reporting period.

Section 6.1 SWQMP states that the site-specific trigger values (SSTV) will be reviewed for appropriateness following 12 months of construction monitoring. This review was undertaken by EMM Consulting during the reporting period and it was concluded that pH and turbidity monitoring was to continue, whilst there was little value in monitoring EC at Haberfield, Pyrmont or St Peters. This parameter was recommended to be removed from the ambient water quality monitoring suite.

It was also recommended that section 3.2.3 SWQMP is removed and instead any exceedance of a SSTV is investigated. If this investigation indicates that (a) the exceedance is likely to the result of a WTP water discharge and (b) that it has the potential to cause harm to the environment, then management actions should be implemented.

5.1.1 Surface Water Monitoring Results

In light of the above, overall the majority of downstream monitoring results recorded during the reporting period were compliant with the SSTV except on a few occasions. Nonetheless improvement in the water quality downstream of the Project discharge outlets was observed.

At Dobroyd Canal (Haberfield) the pH criterion was exceeded on a number of occasions. However, in all but one case, the exceedance was greater at the control site than impact site. Following the downstream pH exceedance recorded on 9 December 2019, management actions were initiated. Management actions included a review of site water treatment plant (WTP) water quality records. It was found that Northcote was not discharging at the time of monitoring and that all WTP pH values were within EPL limits. Therefore, no evidence was found to attribute the changes in water quality to the Project

The NTU SSTV was also exceeded during the monitoring period, however on each occasion NTU was higher at the control site indicating improved water quality downstream. One SSTV exceedance occurred at the impact site, however, this was not attributed to the Project and was a result of catchment-wide wet weather.

Johnstons Creek (Pyrmont Bridge Road, PBR) and Sheas Creek/Alexandra Canal (Campbell Road) recorded no exceedances of the pH criterion during the reporting period, and although NTU was exceeded the SSTV at both downstream monitoring locations, the cause was identified to be non-Project related (ie. NTU was higher upstream and exceedances coincided with wet weather events).

5.2 Groundwater

In accordance with the Groundwater Monitoring Program (GWMP), continuous groundwater level and quality (conductivity) monitoring was undertaken on 26 bores. Two boreholes were not accessible during the entire reporting period with public vehicle(s) preventing access to MT_BH11 and LSB-MT-BH1014-VWP1. For those boreholes which were accessible, loggers were downloaded, and manual level measurements collected every two months.

In May 2020 the sampling pump used during a monitoring event became stuck in LSB-SP-BH10. Attempts were made to retrieve the pump. However, they were unsuccessful and as a result the data logger was removed. LSB-SP-BH10 has been replaced with LSB-SP-BH11 which is located approximately 50m north of LSB-SP-BH10.

5.2.1 Groundwater Level

During the reporting period the groundwater level in all boreholes (excluding LSB-SP-BH10) changed over time however remain above the predicted drawdown levels. The predicted drawdown levels for each monitoring borehole is estimated based on pre-tunnelling water levels. Where there was not sufficient pre-tunnelling data, baseline monitoring results from dataloggers installed as part of the EIS were used where determined to be suitable.

The standing water level (SWL) in LSB-SP-BH10 dropped below the estimated drawdown level at the beginning of the reporting period. However, was observed to stabilise over the last remaining months. There is uncertainty around the accuracy of the estimated drawdown level, as there is limited pre-tunnelling data available for this borehole.

As previously stated, due to the loss of a pump in LSB-SP-BH10 was decommissioned and LSB-SP-BH11 was identified as its replacement. Throughout the forthcoming reporting period LSBJV will investigate the change in SWL in LSB-SP-BH11 to determine where a management response is required.

Short-term drops in the SWL were also observed at LSB-SP-BH03; LSB-SP-BH06, and SP_BH02, and were attributed to other groundwater sampling events which occurred during the reporting period.

5.2.2 Groundwater Quality

Potential changes in groundwater quality were assessed using electrical conductivity (EC) dataloggers, with a management response initiated if the following occurred:

- EC data continuously exceeds the SSTV over the period of three months and depicts a rising trend
- EC data exceeds the SSTV at any time by more than 100%

During the reporting period, no management responses were triggered for the six boreholes located in the Hawkesbury Sandstone lithology. At the beginning of the reporting period LSB-GW-HB-BH08d was observed to be slightly higher than the site-specific trigger value (SSTV), however returned to below the SSTV. A rising but variable trend was observed in LSB-GW-HB-BH12, but it was found that the datalogger had malfunctioned and could not be downloaded during the March 2020 monitoring event. The faulty logger was replaced in May 2020 with a new datalogger and EC logger. The increasing EC trend will continue to be monitored to determine whether a further management measure is triggered, or if the increase was the results of the faulty logger.

In the Ashfield Shale lithology, LSB-SP-BH03 remained consistently below the SSTV whilst LSB-SP-BH10 was consistently above for great than three months. A historical review of the datalogger and manual EC measurements revealed that EC levels were highly variable in LSB-SP-BH10 with the EC exceeding the SSTV in March 2019 prior to the commencement of tunnelling. EC levels will continue to be monitored and the SSTV for Ashfield Shale will be reviewed to ensure it appropriateness,

The alluvial bore LSB-HC-PT-OW5a remained above the SSTV during the reporting period. The SSTV for alluvium was developed using baseline data from the EIS monitoring well HB_BH08s which may not be representative of the EC levels in LSB-HC-PT-OW5a. Considering tunnelling is still some way away from this location, it is unlikely this SSTV exceedance is a result of the Project and therefore no management response is currently required.

5.3 Noise and Vibration

In accordance with the Construction Noise and Vibration Monitoring Program (CNVMP), the following noise and vibration monitoring were undertaken during the between the 28th of November and March 2020:

- Attended airborne noise monitoring
- Unattended ground-borne noise monitoring
- Real-time unattended noise and vibration monitoring
- Attended and unattended vibration monitoring
- Heritage item vibration monitoring

To align with the NSW Government's COVID19 policy and directions to assist in stopping the spread of the virus, beyond the month of March ground borne noise monitoring inside residential ceased. It is expected that the ground borne noise verification monitoring will recommence during the next reporting period, as social distancing restrictions are lifted by the NSW Government.

Table 5-1 provides a summary of the Project-wise noise and vibration monitoring results during the reporting period.

Table 5-1 Noise and Vibration Monitoring Events Summary

Monitoring Type	Prediction Exceedances	Comments
Attended airborne noise monitoring	22	Based on 44 monitoring events. All recorded exceedances were related to background noise sources (ie. road traffic and other non-Project related construction works in the local vicinity) increasing the LAeq (15mins) during the monitoring period
Unattended Ground-borne noise monitoring	0	Based on 10 monitoring events. All ground-borne noise monitoring results where construction was the dominant noise source were compliant with the applicable criteria and did not trigger alternative accommodation.
Attended vibration monitoring	0	Based on five monitoring events. All results were compliant with the relevant criteria for cosmetic damage.

Monitoring Type	Prediction Exceedances	Comments
Unattended vibration monitoring	1	Based on five monitoring events. All Project activity related results were compliant with the relevant criteria for cosmetic damage and human comfort. A 4.84 PPV value was recorded with a frequency of 2 Hz, however, was attributed to a non-Project source following an investigation of the works being undertaken; consultation with the resident, and given it was a one-off event.
Heritage item vibration monitoring	0	Based on two monitoring events. All results were compliant with heritage and sensitive structure criteria for cosmetic damage.

Real-time unattended airborne noise and vibration monitoring was undertaken at each of the three tunnelling sites (Campbell Road, PBR and Northcote Street). The locations of the monitors were determined in consultation with the Project's Acoustic Advisor (AA) and access to the monitoring results are available to ER and AA.

5.4 Dust Deposition

In accordance with the Dust Deposition Monitoring Program (DDMP), depositional dust monitoring was undertaken monthly at the following ancillary facilities:

- Northcote Street civil and tunnel site
- Parramatta Road East and West civil sites (PREW)
- Wattle Street civil and tunnel site
- Pyrmont Bridge Road tunnel site (PBR)
- Campbell Road civil and tunnel site

Depositional dust exceedances are assessed against the annual maximum level of 4 g/m^2/month. During the reporting period, 22 monthly dust results greater than 4 g/m^2 were recorded across the Project. As a result, the annual average dust values for all sites (except for PREW) were identified to exceed the maximum level. A summary table of these exceedance is provided below:

Table 5-3 Annualised Average Dust Values

Construction Site	PREW	Campbell Road	PBR	Northcote	Wattle Str
Annualised Avg	3.05	11.98	6.20	7.79	7.57

As reported within CCR2, the key driver for the high annualised average dust results for Campbell Road, PBR, Northcote and Wattle Str was the poor air quality of the Greater Sydney region caused by low rainfall, drought conditions and the 'Black Summer' bushfires. For all sites the volume of depositional dust recorded over the 12-month period peaked in January 2020, at the height of the fire season. After January the particular matter recorded for PBR, Northcote and Wattle Str all decrease. Campbell Road results however remained high. When investigated the high levels were attributed to the high generation of dust from the sandstone stockpiles within the adjacent New M5 site.

Dust management measures implemented on site during the reporting period included:

- Spoil handling within an acoustic shed;
- Covered loads for all vehicles transporting spoil and other materials;
- On-site dust suppression including water carts, hoses and street sweepers;
- Maintenance of hardstand areas;
- Dust minimisation toolbox talks delivered to site personnel;
- Use of wheel washes and street sweepers to minimise sediment tracking and build up on public roads.