

Melbourne Metro Rail Project

PREPARED FOR RAIL PROJECTS VICTORIA

MMR-AJM-PWAA-RP-NN-005023
MAIN WORKS (TUNNELS & STATIONS)
ENVIRONMENTAL AUDIT SUMMARY
REPORT 2019

DATE 10 FEBRUARY 2022

REVISION P4



Aurecon, Jacobs,
Mott MacDonald

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Glossary

TERM / ABBREVIATION	DESCRIPTION
AJM JV	Aurecon Jacobs Mott MacDonald Joint Venture
ARM	Active Risk Manager
BSGC	Business Support Guidelines for Construction
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CYP	Cross Yarra Partnership
DoT	Department of Transport
EES	Environment Effects Statement
EMF	Environmental Management Framework
EMMP	Environmental Monitoring Management Plan
EMS	Environmental Management System
EPRs	Environmental Performance Requirements
HCMTs	High Capacity Metro Trains
HSMP	Health, Safety Management Plan
IEA	Independent Environmental Auditor
ISO 14001:2015	AS/NZS ISO 14001:2015 <i>Environmental management systems — Requirements with guidance for use</i>
MMRA	Melbourne Metro Rail Authority
MTIA	Major Transport Infrastructure Authority
MTP	Metro Tunnel Project
PS&TRs	Project Scope and Technical Requirements
RIA	Rail Infrastructure Alliance
RIMG	Residential Impact Mitigation Guidelines
RPV	Rail Projects Victoria
RSA	Rail Systems Alliance
SEIPs	Site Environmental Implementation Plans
SEPP	State Environmental Protection Policy
UDS	Urban Design Strategy
VAGO	Victorian Auditor-General's Office
VAGO Early Works Report	Victorian Auditor-General's Office (6 June 2019) <i>Melbourne Metro Tunnel Project – Phase 1: Early Works</i>
WMS	Work Method Statement

1 Executive Summary

The Metro Tunnel Project (MTP) is currently under construction and will create a new end-to-end rail line from Sunbury in the west to Cranbourne/Pakenham in the south-east, with high capacity trains and five new underground stations.

The MTP Early Works, included relocation of services and site preparation works prior to major construction commencing have been completed. The Victorian Auditor-General's Office (VAGO) undertook an audit of the Early Works Package and published its report *Melbourne Metro Tunnel Project – Phase 1: Early Works* on 6 June 2019 (VAGO Early Works Audit Report).

A key recommendation of the VAGO Early Works Audit Report, regarding its assessment of environmental strategies and risk mitigation, was to develop summaries of the Project's Independent Environmental Auditor (IEA) reports and publish such summaries on the MTP official website. This includes the key packages of the Main Works, which include the Tunnels and Station Package being delivered by Cross Yarra Partnership (CYP).

This report has been developed to meet the VAGO recommendation and provide the wider public with information of the Project's environmental performance for the Tunnels and Station package. This report provides a summary of the IEA Six-Monthly Summary Audit reports applicable to the Tunnels and Stations Package, which is one element of the Main Works, from commencement of the works package until the end of 2019.

The Project's Environmental Management Framework (EMF) requires an IEA to undertake environmental audits to assess Delivery Partner compliance with the EMF. The auditing process is designed to lead to continual improvement during projects - this is key to AS/NZS ISO 14001:2015 *Environmental management systems — Requirements with guidance for use* and best practice environmental management. As such, some Observations, Areas for Improvement and Non-conformances were identified.

This report found that CYP addressed the audit findings in a timely manner related to the associated environmental management risk; therefore, audit findings improved CYP's systems and promoted better environmental outcomes. All key audit findings (e.g. Non-conformances and areas for improvement) have been addressed by CYP and corrective actions implemented.

The auditing program within the scope of this report identified that, in general, the works were undertaken in accordance with the requirements of the EMF, relevant Environmental Performance Requirements (EPRs) and the MTP Incorporated Document.

Introduction

2.1 Purpose

Rail Projects Victoria (RPV) engaged Aurecon Jacobs Mott MacDonald Joint Venture (AJM JV) to prepare a summary report of the IEA reports for the MTP Main Works from commencement of Main Works, until the end of 2019. This report relates to the Tunnels and Stations Package for the Project and summarises findings from the IEA audits undertaken in the same time period.

This request follows a recommendation outlined in the VAGO Early Works Audit Report. That report assessed environmental strategies and risk mitigation and recommended that Department of Transport (DoT) publish summaries of key findings and recommended actions from past and future IEA reports produced for the MTP on the Project's official website. The purpose of this audit summary report is to meet the above recommendation of the VAGO Early Works Audit Report and provide the wider public with information of MTP's environmental performance during the Main Works Package (to end of 2019).

2.2 Project Background

2.2.1 THE METRO TUNNEL PROJECT

The Victorian Government is building the MTP to connect the Sunbury line to the Cranbourne and Pakenham lines through the construction of new twin nine-kilometre rail tunnels and five new underground stations. MTP is transforming Melbourne's rail network into an international-style metro system, boosting the capacity of the rail network to keep pace with Melbourne's growing population and rail patronage.

MTP will provide the foundation for expanding Melbourne's public transport network, helping to ensure Melbourne remains one of the world's most liveable cities now and into the future. MTP will also stimulate significant urban renewal, opening up opportunities for new housing, commercial development, and jobs in and around the CBD, whilst improving train travel to and from the suburbs.

The infrastructure required for construction of MTP includes:

- Twin nine-kilometre rail tunnels from Kensington to South Yarra, connecting the Sunbury and Cranbourne/Pakenham railway lines to form a new Sunshine – Dandenong line, with the tunnels to be used by the new High Capacity Metro Train (HCMT).
- Rail tunnel portals (entrances/exits) at Kensington and South Yarra.
- New underground stations at Arden, Parkville (under Grattan Street), State Library (at the northern end of Swanston Street), Town Hall (at the southern end of Swanston Street), and Anzac (under the Domain interchange on St Kilda Road. State Library and Town Hall stations will feature direct interchange with the existing Melbourne Central and Flinders Street Stations respectively.
- Train/ tram interchange at Domain (Anzac) Station.
- High Capacity Signalling to maximise the efficiency of the new fleet of HCMTs.

Some project elements nomenclature (e.g. station names) has changed during the delivery of the Project and audit findings may reflect superseded nomenclature, and the updated name is provided in brackets.

2.2.2 MTP WORK PACKAGES

MTP is being managed on behalf of the Victorian Government by RPV, formerly known as the Melbourne Metro Rail Authority (MMRA). RPV forms part of the Major Transport Infrastructure Authority (MTIA), which is responsible for facilitating the development and delivery of the biggest transport infrastructure program in Victorian history. Figure 0-1 shows a broad schematic plan for the principal components of MTP.

Construction of MTP is being delivered by RPV on behalf of the Victorian Government in partnerships with contracted Delivery Partners; through four separate works packages with different delivery partner(s) for each works package described in Table 0-1. This report relates only to the Main Works: Tunnels and Stations Package.

TABLE 0-1: MTP WORKS PACKAGES

PACKAGE	DESCRIPTION
Early Works	The Early Works Package including three sub-packages of works, each respectively was delivered by a Managing Contractor, Yarra Trams and Utility Service Providers.
Main Works	The Tunnels and Stations Works Package, being delivered by Cross Yarra Partnership (CYP).
	The Rail Infrastructure Works Package associated with the Eastern and Western Tunnel Entrances and the western turnback, being delivered by the Rail Infrastructure Alliance (RIA).
	The Rail Systems Works Package for High Capacity Signalling, rail systems integration and commissioning, being delivered by the Rail Systems Alliance (RSA).

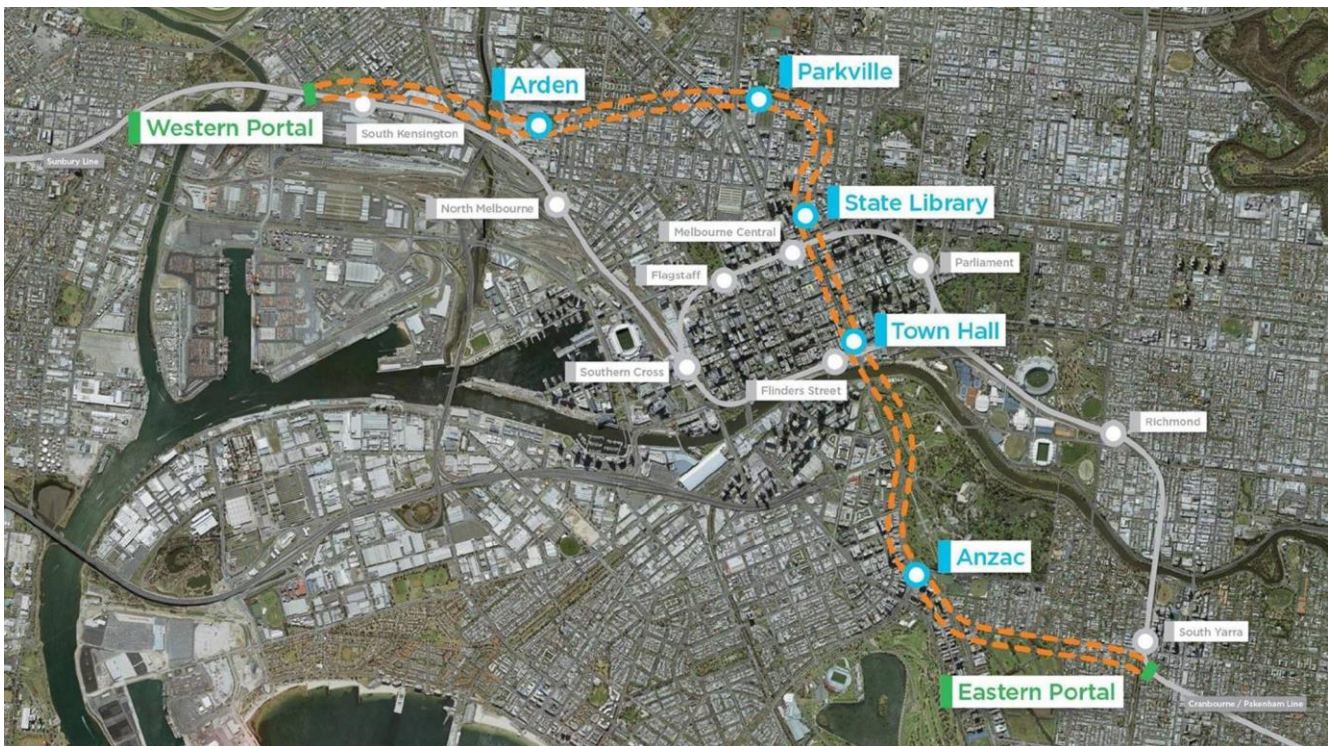


FIGURE 0-1 MTP SCHEMATIC PLAN

2.3 Scope

This report summarises environmental audits conducted as part of the MTP Main Works being delivered by CYP for the Tunnels and Stations Works Package. This report summarises the IEA Six-Monthly Audit Reports undertaken from commencement of Main Works until the end of 2019, provided in Table 0-2. It covers all works conducted under the *GC82 Melbourne Metro Rail Project Incorporated Document (May 2018)* for the Tunnels and Stations Works Package of the MTP and the associated Melbourne Metro EMF.

Subsequent summary audit reporting will be completed on an annual basis.

TABLE 0-2 IEA AUDIT REPORTS IN SCOPE

PACKAGE	SCOPE	RELEVANT IEA REPORTS IN SCOPE
GC82 Tunnels and Stations (CYP)	Publish key findings for IEA Audit reports from Main Works commencement until end of 2019.	Helman Environmental Six-Monthly Summary Environmental Audit Reports: September 2018, March 2019 and August 2019.

The following Packages are excluded from this report and will be covered in separate reports:

- The Rail Infrastructure Works Package associated with the Eastern and Western Portals and the western turnback, being delivered by the RIA MMR-AJM-PWAA-RP-NN-005022 (report published separately)
- The Rail Systems Works Package for high capacity signalling, rail systems integration and commissioning, being delivered by the RSA (work not commenced during the time frame specified within this report; will be included in future reports and combined with RIA findings).

Environmental Management

3.1 Environmental Governance Framework

An Environment Effects Statement (EES) was prepared for the MTP and, following the statutory EES process, an Incorporated Document was approved by the Minister for Planning, containing compliance obligations which must be achieved by the Delivery Partners.

Each Delivery Partner is required to:

- Comply with the requirements of the Incorporated Document under the Planning Scheme Amendment (GC82), published in the Government Gazette on 26 June 2018.
- Comply with the EMF, approved by the Minister for Planning and published on the MTP website. Among other things, the EMF includes the EPRs, the Residential Impact Mitigation Guidelines (RIMG) and the Business Support Guidelines for Construction (BSGC).
- Comply with the EPRs, which includes a requirement to prepare plans to document the approach to compliance (noting that CYP will have different plans to the other Delivery Partners).
- Develop, implement and maintain a project-specific Environmental Management System (EMS), Construction Environmental Management Plan (CEMP) and Site Environmental Implementation Plans (SEIPs) for the design and construction phases, where applicable.
- Comply with the RPV EMS.
- Develop a Community and Stakeholder Engagement Management Plan (CSEMP) consistent with the RPV CSEMP.

The governance framework and relevant roles and responsibilities for MTP are set out in the EMF and are included in Section 3 of this report. The governance framework for MTP is presented in Figure 0-1.

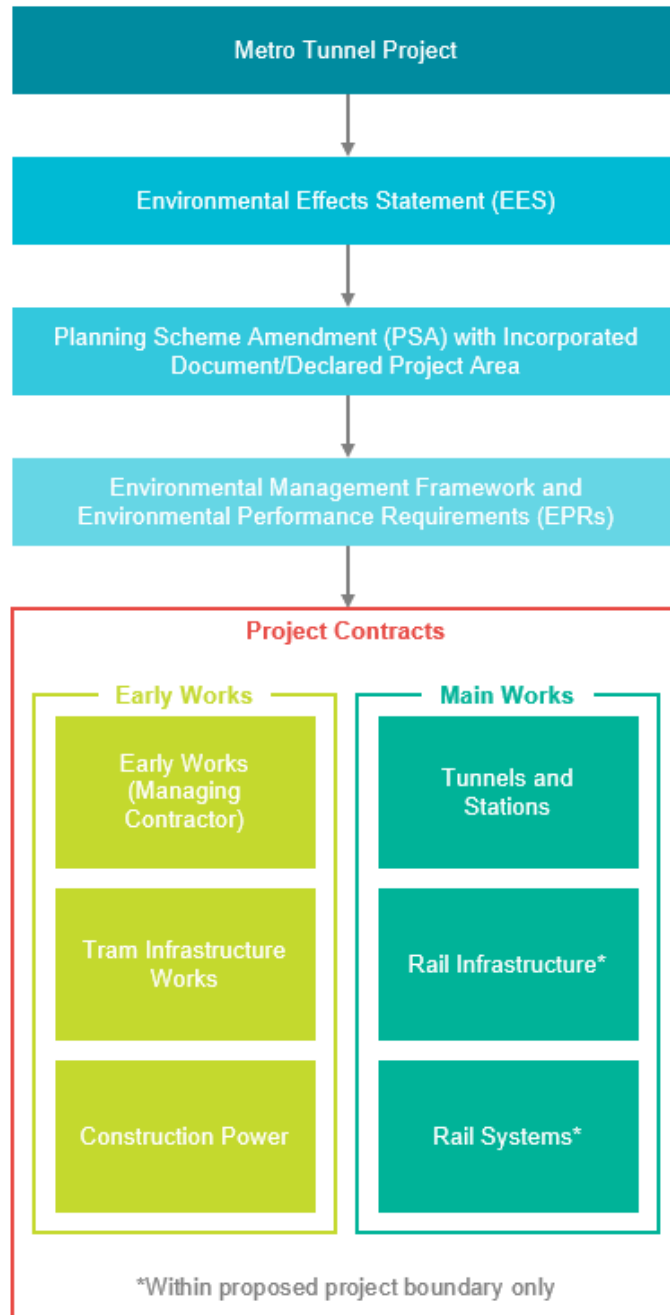


FIGURE 0-1 GOVERNANCE FRAMEWORK

3.1.1 ENVIRONMENTAL MANAGEMENT FRAMEWORK

The Incorporated Document describes the requirements of the EMF. The main elements of the EMF for the design and construction phase are:

- Applicable legislative requirements and approvals.
- EPRs, which address matters set out in the Incorporated Document and identified through the EES.
- The RIMG and the BSGC.
- A CEMP, together with subordinate document including SEIPs, EMS and other plans identified in the Incorporated Document and EMF.

The EMF documentation is summarised in Figure 0-2.

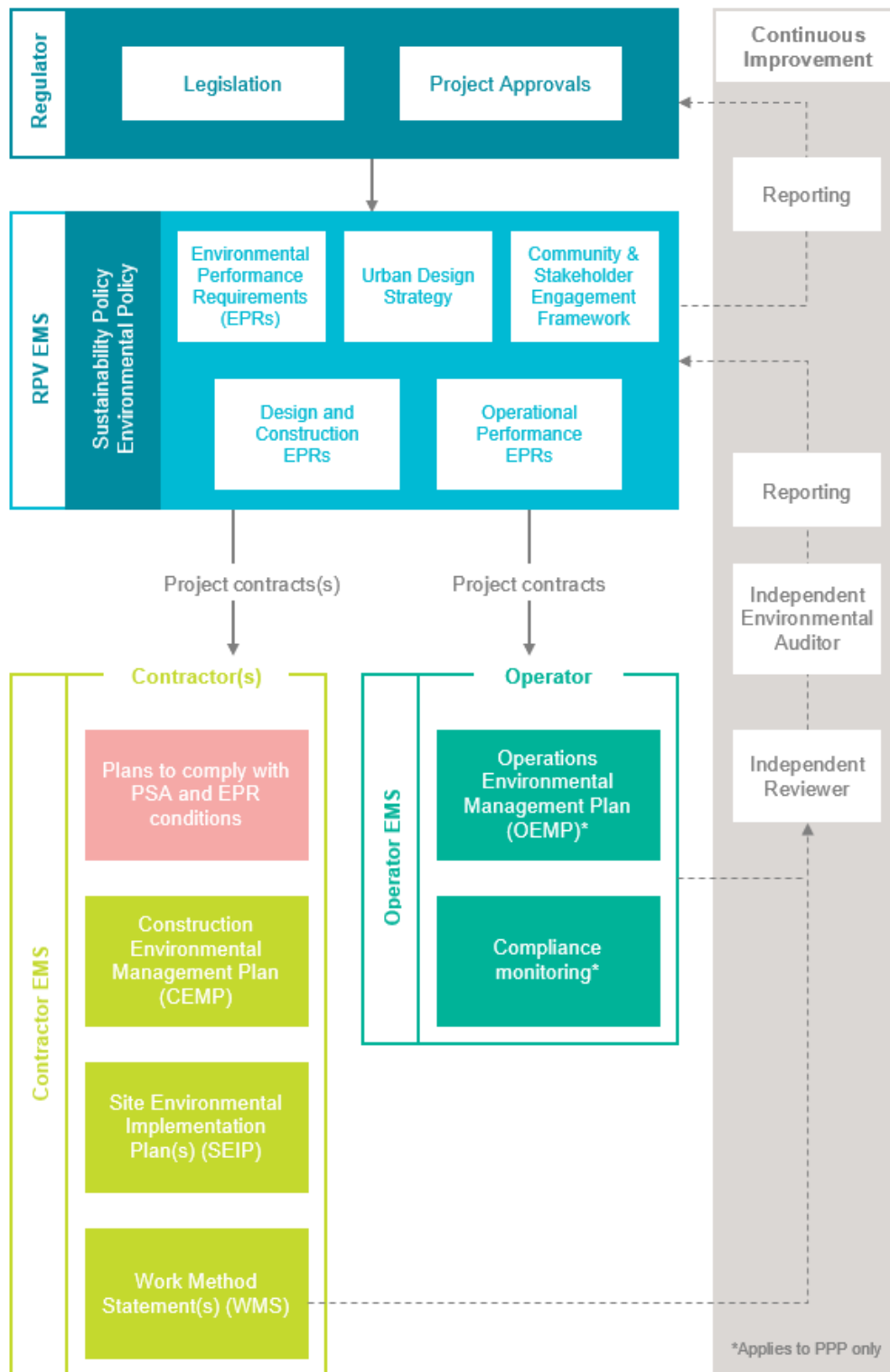


FIGURE 0-2 ENVIRONMENTAL MANAGEMENT FRAMEWORK

The EMF requires that the Delivery Partners develop and implement an EMS certified to ISO 14001:2015 and consistent with relevant legislation, policy and guidelines and RPV’s Environmental Policy.

The EMF provides the governance framework to manage environmental aspects as identified through the EES process, including the Minister for Planning’s assessment for the design, construction and operational phases of the MTP.

3.1.2 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

EPRs have been developed through the EES and associated consultation processes, and to reflect the Minister for Planning's assessment of the EES and the requirements of the Incorporated Document.

MTP is being delivered in accordance with approved EPRs that define the project-wide environmental outcomes that must be achieved during design, construction and operation of MTP (regardless of the solutions adopted). This performance-based approach allows for a delivery model with sufficient flexibility to encourage innovation by the private sector to determine how compliance with the relevant EPRs would be achieved.

The EES presented a risk-based assessment of environmental effects of the MTP, in accordance with the EES Scoping Requirements. Potential mitigation measures were typically included in the EES as examples of how an environmental effect could be mitigated and to illustrate how an EPR could be implemented. However, the EES generally did not mandate or commit to a particular mitigation or management outcome. In the same manner, the EPRs do not typically mandate or require a particular mitigation or management solution. Instead, the EPRs are implemented by applying a risk-weighted assessment of the nature and extent of the relevant environmental effects, and the most practicable means of mitigating and managing those effects. This method is used so that the management and mitigation measures implemented are proportional to the effect they are designed to address and achieve the outcome prescribed by the EPR.

The Incorporated Document requires that the MTP is constructed and operated in accordance with the EPRs approved by the Minister for Planning. Each Delivery Partner is to comply with the EPRs and prepare necessary plans prior to commencement of their scope of work to document the approach to compliance with each EPR.

3.1.3 ASSOCIATED MANAGEMENT PLANS

RPV together with the Delivery Partners (as relevant) prepared plans to comply with the approval requirements in the Incorporated Document. RPV and the Delivery Partners developed and implemented these management plans and programs in accordance with the processes detailed in the EMF.

3.2 Roles and Responsibilities

3.2.1 RAIL PROJECTS VICTORIA

RPV, on behalf of the Victorian Government, is responsible for delivering MTP in line with the requirements and objectives of the DoT and the Victorian Government. RPV forms part of the MTIA, which is responsible for facilitating the development and delivery of the biggest transport infrastructure program in Victorian history.

The key roles and responsibilities of RPV for the MTP are set out in the EMF and include:

- Obtain applicable principal statutory approvals including the Planning Scheme Amendment, Cultural Heritage Management Plan and some heritage permits, where it is more appropriate for RPV to seek these consents.
- Establish the EMF, including the RIMG and the BSGC for approval by the Minister for Planning as required by the Incorporated Document.
- Establish the Urban Design Strategy and the Community and Stakeholder Engagement Management Framework (CSEMF) for approval by the Minister for Planning, as required by the Incorporated Document and EPRs.
- Develop and implement the RPV EMS, in accordance with ISO 14001:2015.
- Monitor compliance with the EPRs across all Project Contracts and comply with the EPRs applicable to RPV.

- Together with each Delivery Partner for each of the Project Contracts, develop and submit the required plans to comply with the requirements of the Incorporated Document and the EMF.
- Review and approve contract documentation for each Project Contract in accordance with the EMF, including the CEMPs, SEIPs, Transport Management Plans, BDPs and Construction Noise and Vibration Management Plans (CNVMP) as required by the Incorporated Document.
- Review the CSEMP for each Project Contract.
- Prior to commencement of work, verify that the Delivery Partner has complied with the relevant EPRs.
- Review the Delivery Partner performance against the approved EPRs and take corrective action as necessary.

3.2.2 DELIVERY PARTNERS

Construction of MTP is being delivered by RPV on behalf of the Victorian Government in partnerships with contracted Delivery Partners. The key roles and responsibilities of each Delivery Partner for the MTP are set out in the EMF and the contractual obligations and include:

- Comply with the EMF (including the EPRs, RIMG, BSGC and CSEMF), legislative and approval requirements.
- Obtain any additional permits from regulatory authorities (other than the approvals that would be obtained by or jointly with RPV).
- Develop and implement a project specific EMS or apply their existing EMS to the specific activities for the MTP, that is certified to ISO 14001:2015.
- Prepare a CEMP, SEIPs and associated work method statements (WMS), and other plans required by the Incorporated Document, EPRs or Project Contracts.
- Develop a CSEMP consistent with RPV's CSEMF approved by the Minister for Planning in accordance with EPR SC3.
- Provide adequate resources to establish, implement, maintain and improve the CEMP, SEIPs and the EMS.
- Implement and maintain compliance with the EPRs.
- Undertake environmental audits to confirm compliance with the EMF, EPRs and plans required by the Incorporated Document.
- Prior to commencement of work, ensure that all sub-contractors have complied with the relevant EPRs, CEMP and plans required to comply with the EPRs and Incorporated Document, where relevant.
- Review of sub-contractor's performance against the EPRs and CEMP and take corrective action as necessary.
- Appoint an IEA.

3.2.3 INDEPENDENT ENVIRONMENTAL AUDITOR

The EMF requires CYP to appoint an IEA to undertake environmental audits of compliance with the approved CEMP and other compliance documents.

The IEA audits compliance with the EPRs and Incorporated Document prior to implementation, as well as during project activities, to verify compliance with the EMF, EPRs, environmental management plans and approval requirements. This also includes investigations into trends in complaints, by topic or on a random basis.

The key roles and responsibilities of the IEA during the Main Works Packages, as specified in the EMF, are:

- Prior to commencement of work, verify that the Delivery Partner has complied with the relevant EPRs, the EMF and the Incorporated Document.
- Conduct audits of the Delivery Partner's work to assess compliance with the CEMP, EMF, EPRs and plans required by the EPRs and Incorporated Document.
- Prepare audit reports containing the results of audits.
- Review complaints which may highlight trends or Non-conformance with applicable EPRs.

Conduct of Audits

4.1 IEA Audit Requirements

Audits of the Delivery Partner's CEMP, sub-plans and SEIPs were required prior to works commencing to confirm compliance with ISO 14001:2015, the EMF, relevant EPRs and Incorporated Document.

Site audits are scheduled on a quarterly basis through the Main Works Package and considered:

- The timing of works
- The nature of the works including consideration of the level of associated risk
- Incident investigation outcomes
- Complaints received, particularly if related to EPRs and indicate instances of Non-conformances
- Previous audit outcomes
- Management review outcomes.

Upon the completion of each audit, an audit report detailing all the findings was submitted to RPV.

4.2 IEA Audit Methodology

4.2.1 AUDIT OVERVIEW

The MTP Main Works (Tunnels and Stations) Auditing Programme by the IEA is defined in the EMF to:

- Conduct audits of the Delivery Partner works to assess compliance with the CEMP, Operational Environmental Management Plan (for Tunnels and Stations operational phase only), EMF, EPRs and plans required by the EPRs and Incorporated Document.
- Prepare a six-monthly report summarising the Delivery Partner's compliance with the EMF and provide to RPV and the Delivery Partner.
- Prepare audit reports containing the results of audits.

Accordingly, the objective for these audits is to assess the conformance of the Project works with project compliance obligations.

4.2.2 AUDIT PROGRAM

Audits of the Delivery Partner's CEMP, sub-plans and SEIPs involved a review of each document to assess compliance with ISO 14001:2015, the EMF, relevant EPRs and Incorporated Document.

During site inspections, compliance is assessed through observation of project activities, interviews and review of relevant environmental records.

An audit program is prepared each year during a workshop attended by CYP, RPV and the IEA, Helman Environmental. Each quarterly audit scope is based on project status and the environmental aspects considered

to be significant for the relevant works. Audit scopes are reviewed prior to each audit to confirm relevance relative to the stage of the project works.

Audits typically evaluated:

- Conformance with CYP EMS requirements
- Conformance with CYP CEMP requirements, management plans and any CEMP sub-plans
- Compliance with Project EMF and EPRs
- Compliance with the Incorporated Document
- Responses to Non-conformances, incidents and complaints received
- Effective implementation of monitoring programs.

4.2.2.1 Documentation

As part of the Tunnels and Stations Main Works program, CYP has produced several environmental documents, which have been audited by the IEA:

- Construction Environmental Management Plan and associated sub plans
- Site Environmental Implementation Plans
- Air Quality Dust and Light Management Plan
- Ecology Management Plan
- Heritage Management Plan
- Surface Water Management Plan
- Spoil Management Plan
- Land Use Management Plan
- Electromagnetic Compatibility Management Plan
- Ground Movement Plan
- Ground Movement Instrumentation & Monitoring Plan
- Groundwater Management Plan
- Monitoring Management Plan
- Environmental Monitoring Management Plan
- Noise & Vibration Management Plan
- Construction Noise & Vibration Management Plan
- Health and Safety Plan
- Emergency Response and Incident Management Plan
- EMS Manual

- Others as required.

4.2.2.2 Works

The Tunnels and Stations Main Works are being undertaken in seven construction precincts:

- Western Portal (Western Tunnel Entrance)
- Arden Station
- Parkville Station
- State Library Station
- Town Hall Station
- Anzac Station
- Eastern Portal (Eastern Tunnel Entrance).

The Main Works for the Tunnels and Stations includes:

- Piling
- Excavation
- Services works
- Traffic management
- Tunnelling
- Station construction
- Station fit out.

4.2.3 COMPLAINTS

Complaints are addressed during the course of the IEA Audits through the implementation of the CEMP audit Checklist. This includes verification that environmental-related complaints from community members or other stakeholders are managed in accordance with the processes outlined in the CEMP and Stakeholder and Communications Engagement Management Plan.

Findings against this process may result in Non-conformance if complaints are not being appropriately managed. Where there are no specific IEA findings under the CEMP, complaints are being managed in accordance with the relevant plans.

4.2.4 AUDIT CLASSIFICATIONS

Helman Environmental audit finding classifications are provided in Table 0-1.

CYP is required to develop action plans with a timeframe to address effective close out of all audit findings. These audit findings are required to be closed out by the Delivery Partner in a timely manner relative to the associated environmental management risk.

TABLE 0-1 HELMAN ENVIRONMENTAL AUDIT FINDING CLASSIFICATIONS

FINDING	DESCRIPTION
Conformance (C)	There is sufficient evidence to confirm that actions have been undertaken, prepared and/or implemented in full conformance with the requirements of the auditable element.
Non-conformance (NC)	An event that has not fulfilled a requirement specified in the EMS, CEMP, Sub Plans and Management Plans, EPRs, SEIPs, legislation and permit conditions. A situation, which would, on the basis of available objective evidence raise significant doubt as to the effectiveness of environmental management.
Area for improvement (AFI)	A deficiency in the implementation of the EMS, CEMP or subordinate documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.
Observation (O)	An audit finding which may relate to an incidental or isolated system discrepancy, which does not compromise the effectiveness of environmental management, or constitute an actual or potential environmental risk.
Undetermined	There is insufficient evidence to make a judgement on compliance.
Not Applicable (N/A)	The auditable element falls outside the scope of the audit, e.g. work relevant to the element being audited has not yet commenced.

5 Audit Findings

This section presents a summary of the six-monthly audit reports within reporting period (project commencement to end of 2019), including a summary of the findings raised in each period. A summary of the non-conformance's raised during the reporting period is provided in Section 5.4.

5.1 IEA Summary Report (September 2018)

5.1.1 FINDINGS

During the September 2018 six-monthly reporting period, there were two IEA quarterly audits in May 2018 and August 2018. During the reporting period, forty-four (35%) of the 125 EPRs across 11 of the 19 EPR categories were audited. Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements.

In this period a total of 27 audit findings were raised in Table 5-1: Summary of audit findings (sept 2018); of these 12 findings were raised in the May 2018 audit and 15 findings in the August 2018 audit. This increase is due to the increased complexity and scope of the project works. By the August audit, CYP had addressed and closed off six of the 12 findings raised in the May audit.

A total of 8 Non-conformances were raised during the reporting period, which are summarised in Section 5.4

TABLE 5-1: SUMMARY OF AUDIT FINDINGS (SEPT 2018)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	0	8	1	7
Area for improvement	0	9	2	7
Observation	0	10	3	7
Total	0	27	6	21

5.1.2 REPORT OUTCOME

The IEA assessed CYPs performance, including environmental management documentation against the audit scope and objectives outlined in Section 4, and as was applicable to the specific audits completed during the reporting period. Against the key audit objectives, the September 2018 IEA summary report determined:

- The audited EPRs were largely compliant. Any findings raised during the audit do not pose a material risk to environmental management as they were concluded as being administrative.
- During the audit period, the EMS was in the early phases of being implemented. The minor findings that were raised do not pose a material risk to environmental management as they were concluded as being administrative.

- The CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings did not pose a material risk to environmental management as they were mostly associated with documentation due to the environmental management processes still being formed during the reporting period.
- The audit findings demonstrated that the requirements of the SEIPs were largely met and related mainly to administrative areas.
- Requirements of the management plans were being implemented and on-ground environmental management was largely robust. According to the findings, the environmental management processes and practices can be improved further and the implementation of the management requirements was still in progress.
- The audits identified that there was general conformance of the EMF requirements of developing and implementing specific Management Plans relevant during the reporting period. The exceptions were:
 - » **Construction Noise and Vibration Management Plan (CNVMP):** general conformance was achieved with this Management Plan, however two Non-conformances were raised for Unavoidable Works (NV21 J1).
 - » **Spoil Management Plan:** on-ground spoil was appropriately managed during the reporting period, however the SMP does not reflect actual spoil management practice.

5.2 IEA Summary Report (March 2019)

5.2.1 FINDINGS

During the March 2019 six-monthly reporting period, there were two IEA quarterly audits in November 2018 and February 2019. In this period ninety-three (84%) of the 125 EPRs were audited including at least one EPR from each of the 19 EPR categories.

Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements. Due to design and construction activities that were underway, some EPRs were not relevant and therefore not audited (e.g. AR2, CH12, and NV18), or were captured in documentation reviewed separately by the IEA (e.g. NV9).

In the period a total 23 audit findings that were identified, four were Non-conformances, five were Areas for Improvement and 14 were Observations. The decrease in audit findings that were raised in February 2019 compared to November 2018 reflects the increasing refinement of environmental management practices on the Project. CYP have addressed and closed off 32 audit findings over the two audits in November 2018 and February 2019.

A total of 4 Non-conformances were raised during the reporting period, which are summarised in Section 5.4

TABLE 5-2: SUMMARY OF AUDIT FINDINGS (MAR 2019)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	7	4	9	2
Area for improvement	7	5	8	4
Observation	7	14	15	6
Total	21	23	32	12

5.2.2 REPORT OUTCOME

The IEA assessed CYP's performance, including environmental management documentation against the audit scope and objectives outlined in Section 4, and as was applicable to the specific audits completed during the reporting period. Against the key audit objectives, the March 2019 IEA summary report determined:

- The audited EPRs were largely compliant. One finding raised during the audit against EPR EMF1 does not pose a material risk to environmental management as it was concluded as being administrative.
- Since the previous audit period, the EMS had progressed further in implementation. The minor findings raised did not pose a material risk to environmental management as they were concluded as being administrative.
- The CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings did not pose a material risk to environmental management as they were mostly associated with documentation. Environmental management processes have significantly improved for this reporting period.

- The audit findings were considered minor and demonstrated that the requirements of the SEIPs were largely met.
- During the reporting period, Main Works construction activities were ongoing. Requirements of the management plans were being implemented and on-ground environmental management was largely robust. The audits identified that there was general conformance of the EMF requirements of developing and implementing specific Management Plans relevant during the reporting period. The exceptions were:
 - » **Spoil Management Plan:** on-ground spoil was appropriately managed during the reporting period, however an off-site loss of containment of Acid Sulphate Soil was detected.

5.3 IEA Summary Report (August 2019)

5.3.1 FINDINGS

During the August 2019 six-monthly reporting period, there were two IEA quarterly audits in May 2019 and August 2019. In this period, 73 EPRs were audited (58% of the total 125 EPRs, and 65% of the 113 ERPs in the scope of the audit). Of the 19 EPR categories, seven were not included in the audit scope.

Certain EPRs were not covered in the audit schedule as these were not applicable to the design and construction works ongoing during the reporting period. The EPRs vary in the detail of their requirements, and each EPR category has a different number of EPRs. The amount of EPRs audited is not directly reflective of the relative weight of environmental management requirements.

In the period a total 18 audit findings that were identified; including one Non-conformance, six were Areas for Improvement and 11 were Observations. Compared to the previous reporting period, fewer audit findings were raised during March – August 2019.

Fourteen findings were closed during the reporting period, of which some were identified before the reporting period. Sixteen findings remained open at the end of the reporting period, August 2019.

One Non-conformance was raised during the reporting period, which is summarised in Section 5.4.

TABLE 5-3: SUMMARY OF AUDIT FINDINGS (AUG 2019)

FINDING TYPE	OPEN AT START OF 6-MONTH PERIOD	RAISED DURING 6-MONTH PERIOD	CLOSED DURING 6-MONTH PERIOD	OPEN AT END OF 6-MONTH PERIOD
Non-conformance	2	1	2	1
Area for improvement	4	6	4	6
Observation	6	11	8	9
Total	12	18	14	16

5.3.2 REPORT OUTCOME

The IEA assessed CYPs performance, including environmental management documentation against the audit scope and objectives outlined in Section 4, and as was applicable to the specific audits completed during the reporting period. Against the key audit objectives, the September 2018 IEA summary report determined:

- The audited EPRs were largely compliant. One Non-conformance relating to noise management and alert levels for night works (EPR NV6) was raised. Coupled with the findings raised against the Management Plans, this highlights a potential issue with noise monitoring and its management.
- EMS implementation during the reporting period was satisfactory. The minor findings raised do not pose a material risk to environmental management as they were concluded as being administrative.
- The CEMP allows for the implementation of an appropriate framework for environmental management for the Project. The audit findings did not pose a material risk to environmental management as they were mostly associated with documentation. Environmental management processes were satisfactory for this reporting period.
- The audit findings were considered minor and demonstrated that the requirements of the SEIPs were largely met.
- Requirements of the management plans were being implemented and on-ground environmental management was largely robust. The audits identified that there was general conformance of the EMF requirements of developing and implementing specific Management Plans relevant during the reporting period. Improvements were identified for noise and vibration modelling and monitoring.

5.4 Summary of Non-conformances

This section outlines the Non-conformances raised during the reporting period, and how these key findings have been addressed by CYP and the corrective actions that were implemented. During the reporting period, a total of 13 Non-conformances were raised by the IEA; all of which have now been addressed by CYP.

5.4.1 GENERAL

Reporting Non-conformances

The PS&TRs require that CYP report Non-conformances arising from IEA audits to the State and Independent Reviewer within five business days of completion of the audit. Non-conformances arising from the IEA May 2018 audit were transmitted to RPV later than five business days after completion of the audit.

In the November 2018 audit, CYP provided the IEA evidence that the August 2018 audit report was submitted to RPV within the five-business day timeframe and the finding was closed.

Implementation of the Spoil Management Plan

CYP's Spoil Management Plan contains several management requirements for the generation, treatment and transportation of spoil material. In the November 2018 audit, a Non-conformance was raised where spoil material was not appropriately contained during transport, resulting with a discharge of spoil occurring from a haulage truck. This indicated CYP had ineffective or incomplete implementation of the controls to manage spoil transport.

CYP followed their incident management process at the time of the event occurring, including a clean-up of the area affected. The event was recorded and managed as an environmental incident and environmental controls were reviewed for effectiveness and communicated to the relevant site personnel. The finding was closed in February 2019.

Emergency Preparedness documentation

CYP's CEMP is required to show determination of potential emergency situations to be able to respond to foreseeable environmental incidents as part of their emergency preparedness and response. During the course of the May 2018 audit, the IEA determined CYP had not adequately outlined all foreseeable environmental

incidents and emergencies for the Project, and as such the Project had not defined adequate responses with measures to mitigate the environmental impacts of all foreseeable incidents, emergencies and their responses.

CYP undertook a review of the plans and identified environmental emergency scenarios and impacts and updated the risk registers to include emergency scenarios. The Non-conformance was closed in the November 2018 audit.

Management of Corrective Actions

A requirement of the CEMP is that Non-conformance reports will be raised, tracked and closed out in accordance with Non-conformance & Corrective Action Procedure, which references the John Holland Event Tracking (JHET) system. As part of the August 2018 audit, the IEA raised a Non-conformance as the process used in JHET to identify and track corrective actions did not address root causes and the system did not adequately allow for the close-out of actions. Furthermore, not all audit findings had been entered into the JHET system.

To address this Non-conformance, CYP displayed that all open findings in JHET (from the IEA May and August 2018 audits) have multiple actions (as required) to ensure that the findings are addressed across all precincts and parts of the project. CYP also continued to summarise the IEA Audit findings in a CYP Audit Response Report which mapped the JHET actions to each finding, and actions were closed progressively and checked for effectiveness. This finding was closed in November 2018.

Provision of emergency contact details on SEIPs

The Metro Tunnel Project Scope and Technical Requirements (PS&TRs) and the CEMP require that copies of SEIPs are displayed on site with emergency contact details. The SEIP was included in the environment work pack and included the contact details for the Environment Representative as well as the Site Supervisor and the Incident Manager on Duty. However, during the August 2018 audit, the SEIP was not displayed on site as required and a Non-conformance was raised by the IEA.

During the November 2018 audit site visits, the IEA observed SEIPs which included the emergency contact details. This finding was closed in November 2018.

Visibly display SEIPs in work areas

The CEMP requires SEIPs to be displayed, kept current and visible where the relevant works are occurring. SEIPs provide site specific plans identifying site-specific environmental control measures to be implemented. As part of the August 2018 audit, the IEA raised a Non-conformance as SEIPs at Domain (now Anzac) and Arden were not on display. It was noted, however, that the SEIPs were generally included in the site environmental works packs.

During the November 2018 audit, the IEA observed that the SEIPs were at the relevant sites and the finding was closed.

5.4.2 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

Environmental Management Framework (EMF2) – EMS certification

EPR EMF1 states that prior to commencement of Project works, the Delivery Partner was required to prepare and implement an EMS that is certified to ISO 14001:2015 Environmental Management Systems. In the November 2018 audit, the CYP EMS was not yet certified to ISO 14001 and therefore a Non-conformance was raised.

To address the non-conformance the project EMS was to be certified as part of the John Holland Group EMS ISO 14001 certification scope. The IEA also noted that the JHG EMS Manual would replace the Project EMS Manual and evidence that the JHG EMS ISO14001 certification includes the Project was provided and the Non-conformance was closed in May 2019.

Environmental Management Framework (EMF2) – Environment policy

The Environmental Policy was missing reference to commitments required by ISO14001 for “protection of the environment” and “preventing pollution”. This was being addressed in the new policy however, during the November 2018 audit, the policy was under internal CYP review which was yet to be approved.

The revised Environment Policy changes were covered at the Management Review conducted in December 2018, and the Policy was approved and posted on the parent company websites and site noticeboards. The finding was closed May 2019.

Environmental Management Framework (EMF2) – EMS management review

CYP is required to undertake a Management Review as part of EMS certification to ISO14001. This meeting includes a review of the environmental considerations. A Non-conformance was raised as part of the November 2018 audit in response to the fact that no formal Management Review had been conducted. However, it was noted that one had been planned for early December 2018.

CYP confirmed the management review was conducted and was attended by the Project Director, Construction Director, LPE Manager, and Environment Manager Project Wide. The process was documented, and outcomes noted. The finding was closed in the following audit in February 2019.

Contaminated land and spoil management (C3) – methodology

CYP is required to identify methods to control exposure to hazardous substances for employees, visitors and general public in accordance with relevant regulations, standards and best practice guidance and to the satisfaction of WorkSafe and in consultation with EPA. In the August 2018 audit report the IEA noted that there was no evidence that the methods to control exposure to hazardous substances were included or referenced in the HSMP to the satisfaction of WorkSafe. Therefore, a Non-conformance was raised.

To address the non-conformance, CYP provided the IEA with evidence of consultation with Worksafe. CYP's Director People, Safety and Quality presented to WorkSafe and ComCare about CYP's approach to the management of Hazardous substances as part of CYP's HSMP. The finding was closed out in November 2018.

Noise and vibration (NV6) – Noise levels

MTEM provides alerts when there are exceedances of Guideline Noise Levels. There is a requirement to meet external construction noise targets, where CYP has an unattended noise monitoring program to measure compliance. The noise levels reduce after 18-months of construction after Project commencement. In the August 2019 audit, CYP had no documented process in place to define these changes.

CYP developed a documented process for establishing when levels would be adjusted to those defined for 18 months after project commencement by November 2019. CYP had implemented these documented changes and was monitoring to the reduced levels at several precincts. The finding was closed in February 2020.

Noise and vibration (NV21) – Out of hours works

CYP is required to obtain external approval for OOHW in certain circumstances. Approval for unavoidable works can only be granted by the IEA.

During the course of the May 2018 audit, the IEA identified that the Domain (Anzac) Tram Slew works, which included Unavoidable Works, commenced without an approved OOHW Permit, resulting in a Non-conformance. To address the finding, CYP updated the OOHW Permit process. The finding was closed in August 2018.

Noise and vibration (NV21) – Out of hours works

CYP is required to obtain approval for OOHW in certain circumstances. Activities that constitute unavoidable OOHW are to be approved by the IEA, prior to works commencing, except in certain defined circumstances such as emergency works.

The process for issuing OOHW permits was not being implemented by CYP as described in the CNVMP approved for use during the audit period. During the course of the August 2018 audit the IEA raised a non-conformance. It was noted that the CNVMP issued for use included an OOHW permit process which had not been approved by RPV.

The finding was closed in November 2018 after the IEA confirmed the OOHW Permit process documented in the CNVMP was the process in use.

6 Conclusions

This report summarises the IEA reports for the MTP Main Works for the Tunnels and Stations Works Package from commencement of such works until the end of 2019. It was prepared in response to a recommendation in the VAGO Early Works Audit Report. The VAGO report assessed the environmental strategies and risk mitigation and recommended that the DoT publish summaries of key findings and recommended actions from past and future IEA reports.

The purpose of this report is to meet the above recommendation of the VAGO Early Works Audit Report and provide the wider public with information on MTP’s environmental performance during the Main Works Package. The Tunnels and Stations Package is a highly complex package of works with a diverse and intricate construction program, with works occurring in a highly urbanised environment with a number of constraints. The auditing process is designed to lead to continual improvement during projects - this is key to implementing best practice ISO 14001:2015 environmental management systems.

An audit program is prepared each year during a workshop attended by CYP, RPV and the IEA, Helman Environmental. Each quarterly audit scope is based on project status and the environmental aspects considered significant for the relevant works. Audit scopes are reviewed prior to each audit to confirm relevance relative to the stage of the project works. The Delivery Partner, CYP, is required to develop action plans with a timeframe to address effective close out of all audit findings.

Table 6-1: Raised IEA findings during reporting period provides a summary of audit findings raised during the audit period. These audit findings are required to be closed out by the Delivery Partner in a timely manner relative to the associated environmental management risk.

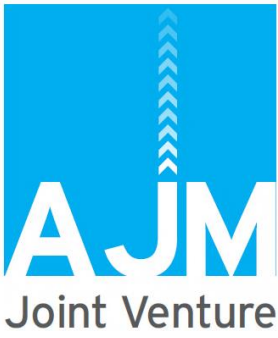
TABLE 6-1: RAISED IEA FINDINGS DURING REPORTING PERIOD

FINDING TYPE	MAY 18	AUG 18	NOV 18	FEB 19	MAY 19	AUG 19	TOTAL RAISED FINDINGS
Non-conformance	2	6	4	0	0	1	13
Area for improvement	5	4	3	2	2	4	20
Opportunity	5	5	10	4	7	4	35

In the audit periods covered by this report, CYP closed out the audit findings in a timely manner related to the associated environmental management risk; therefore, audit findings improved CYP’s systems and promoted better environmental outcomes. At the time of writing, all key audit findings (E.g. non-conformances and areas for improvement) have been addressed by CYP at the time of writing and corrective actions implemented. The auditing programme identified that, in general, the construction of the Tunnels and Stations Package was undertaken in accordance with the requirements of EMF, relevant EPRs and Incorporated Document.

During the earlier audits, where CYP environmental processes and systems were still being established, a higher number of findings were identified. However, as works progressed over time, there was a downward trend in both the number of findings and the associated risk; for instance, the higher risk findings (e.g. non-conformances) trended down, and findings that were raised in later audits were lower risk (e.g. observations). This highlights the project’s overall improvements in compliance and the commitment to the continuous improvement principle.

Further summaries of key findings and recommended actions from future IEA reports produced for the remaining work packages of the MTP will be prepared and published on the Project’s official [website](#).



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