

# WEST GATE TUNNEL PROJECT

Independent Reviewer and Environmental Auditor  
Final Report for Submission to the Minister for Planning –  
March 2019 to August 2019

# WEST GATE TUNNEL PROJECT

## Independent Reviewer & Environmental Auditor

### Final Audit Report for Minister of Planning

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## EXECUTIVE SUMMARY

### Introduction

This report summarises the environmental audit findings of the Independent Reviewer and Environmental Auditor (IREA) for the West Gate Tunnel Project (the Project) in Melbourne, Victoria. It covers the six monthly audit of the Environmental Management Strategy (the Strategy), quarterly Construction Environmental Management Plan (CEMP) audits, and monthly audits of the Worksite Environmental Management Plans (WEMPs) which occurred during the construction period from March 2019 to August 2019.

This is the third IREA Minister's Report, which is required to be issued every six months to the Victorian Minister for Planning and made available to the public on the Project website.

Construction on the Project has been underway since March 2018. Recent activities have been concentrated on the widening of the West Gate Freeway, preparing to launch the tunnel boring machines and substructure works for the various bridges along the eastern portion of the Project.

### Overview of Findings

Overall Project Co was found to be meeting its obligations under the Strategy. No non-conformances were raised with Project Co during the Strategy audit. Four opportunities for improvement and four observations were raised.

Project Co / the D&C Subcontractor is generally compliant with the EPRs with six exceptions. During the six-month reporting period non-conformances were raised against noise and vibration and air quality EPRS (AQP4, NVP7, NVP8, NVP18 and AQP6). Of these, one non-conformance finding was closed in August 2019 for the air quality EPR AQP6.

Current findings highlight the need for Project Co and the D&C Subcontractor to better document their evidence of compliance with EPRs, in particular, to demonstrate regular analyses of environmental monitoring data and use of these analyses to influence environmental management.

The CEMP and subplans have been undergoing a review process for the past ten months which involves all Project parties. Whilst some subplans have been reapproved by the IREA, a number of the higher priority plans such as construction noise and vibration and groundwater remain under review with outstanding comments relating to current environmental risks and previous audit findings raised by IREA.

The IREA's future auditing program will focus on how Project Co and the D&C Subcontractor demonstrate compliance with Project environmental requirements, as well as how they manage timely close out of IREA audit findings. Across all audit types it takes Project Co and the D&C Subcontractor an average of 83 days to close a non-conformance, with a number of findings being open for over 400 days (June 2018 CEMP Audit findings).

A summary of the findings raised during the reporting period is below.

### Environmental Management Strategy

Project Co is currently meeting its obligations under the Strategy. No non-conformances were raised during the reporting period. Eight findings were raised overall and these related to the corporate and Project-specific management systems, and processes and documents that Project Co rely on to assist them in implementing the Strategy. The findings consisted of:

- Four opportunities for improvement
- Four observations

These findings are detailed further in Section 3.1 of the report.

### Environmental Performance Requirements

During the last six-month reporting period the IREA formally audited 54 EPRs. The majority of EPRs audited during the reporting period were deemed compliant, the findings raised consisted of:

- Five non-conformances, these related to noise and vibration and air quality.

- 18 opportunities for improvement, a number of these related to management documentation requiring further development, or lack of evidence that documents have been fully implemented.
- Eight observations were also raised.

Four of the five non-conformances raised during the reporting period remain open, as well as one non-conformance from the previous reporting period, i.e. there is a total of five non-conformances open at the end of this reporting period. Of the five open non-conformances, four relate to construction noise and vibration. It is the IREA's opinion that these issues need to be addressed prior to the start of tunnelling.

A full list of EPR findings raised and the status of previous findings is detailed in Section 3.2. Also refer to Appendix A for a summary of EPR compliance status and the upcoming EPR auditing schedule.

### Construction Environmental Management Plan

The last six-month reporting period focused on auditing a range of CEMP elements and subplans. A number of these plans were out of date at the beginning of March 2019 which resulted in multiple audit findings being raised against them. Subsequent improvements were made to a number of plans resulting in these being approved by the IREA in August 2019. However, some key plans remain unapproved with significant comments outstanding as of the end of August. A full list of CEMP subplans and their review status can be found in Section 1.2.4.

The CEMP audit findings for the May 2019 quarterly audit are summarised below:

- Two non-conformances were raised against the CEMP, one in relation to not entering environmentally relevant community complaints into the appropriate system within a specified timeframe, and one relating to delays in updating the CEMP and subplans
- Eleven opportunities for improvement, this included four against the CEMP and seven against the CEMP subplans. These generally related to incident reporting, internal CEMP auditing; and inconsistencies between commitments made in management plan documentation and actual practices.

The CEMP audit findings for the August 2019 quarterly audit are summarised below:

- One non-conformance was raised against the CEMP as the D&C Subcontractor was unable to demonstrate that an internal management review of their Environmental Management System had been undertaken.
- Seven opportunities for improvement were raised. This included four against the CEMP and three against the CEMP subplans. The findings against the CEMP related system management processes such as risk and opportunity management and incident management (classification). The findings raised against the CEMP sub-plans related to reporting on fauna relocations, monthly sustainability reporting and implementation of reviews under the business consultation framework.

The IREA will continue to work with Project Co / the D&C Subcontractor to close out any outstanding non-conformances and opportunities for improvement, which largely relate to updating the CEMP and subplans. Whilst Project Co / the D&C Subcontractor have made an increased effort to close previous findings over the last six-month reporting period, progress is still slow. Details of the CEMP findings are listed in Section 3.3.

### Worksite Environment Management Plans

During the reporting period six WEMP audits were conducted. A total of 48 findings were raised in this reporting period. These consisted of:

- Three non-conformances. These were a result of the wrong WEMP being used at a construction work front (Tunnel Zone), vegetation clearance being undertaken without following the necessary procedure for preclearance by a qualified ecologist (West Zone) and an incident report not being raised in the D&C Subcontractor's systems within the appropriate timeframe (West Zone).
- 22 opportunities for improvement. The majority of these related to administrative findings such as WEMPs not reflecting onsite environmental controls.
- 23 observations.

The D&C Subcontractor is yet to demonstrate a consistent system of reporting, communicating and closing out WEMP audit findings to the IREA across all zones. As with other audits, close out of WEMP audit



findings is slow. In total there are 38 WEMP audit findings which remain open since construction began in March 2018, comprising ten non-conformances and 28 opportunities for improvement.

The WEMP findings are further detailed

### **Conclusions**

The majority of audit findings made in the reporting period relate to procedural matters. Some of these procedural findings relate to high risk areas i.e. noise and vibration and groundwater. A small number of findings relate to on-site environmental impacts or risks. It's noted that a number of the audit findings from previous reporting periods remain open and this is of concern.

The findings arising from the reporting period by the IREA has not identified any immediate significant or material risks to the environment.

## GLOSSARY OF TERMS & ABBREVIATIONS

AQMP	Air Quality Management Plan
BIP	Business Improvement Plan
BOM	Bureau of Meteorology
CPBJH	Design and Construction Subcontractor
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Management Plan
CD	Certified Design
CHMP	Cultural Heritage Management Plan
CSM	Conceptual Site Model
EES	Environment Effects Statement
EMF	Environmental Management Framework
EMS	Environmental Management Strategy
EPR	Environmental Performance Requirements
FFMP	Flora and Fauna Management Plan
GHG	Greenhouse Gas
GMMP	Ground Movement Management Plan
GWMP	Groundwater Management Plan
HMP	Heritage Management Plan
IREA	Independent Reviewer and Environmental Auditor
ISCA	Infrastructure Sustainability Council Australia
LMP	Lighting Management Plan
JASANZ	Joint Accreditation System of Australia and New Zealand
NML	Noise Management Levels
NYMS	North Yarra Main Sewer
PPP	Public Private Partnership
PSA	Planning Scheme Amendment
PSR	Project Scope & Requirements (Project Agreement or Contract)
SAQPs	Sampling Analysis and Quality Plans
SEPP	State Environment Protection Policy
SSMP	Soil and Spoil Management Plan
TBM	Tunnel boring machine
WEMP	Worksite Environment Management Plan
WGTP MTIA	West Gate Tunnel Project Major Transport Infrastructure Authority
WMP	Water Management Plan
WstMP	Waste Management Plan

# 1 INTRODUCTION

## 1.1 Purpose of this Report

This report summarises the Independent Reviewer and Environmental Auditor (IREA) audit findings from the third six-month period of construction of the West Gate Tunnel Project (the Project) in Melbourne, Victoria.

The IREA has been jointly appointed by West Gate Tunnel Project, Major Transport Infrastructure Authority (WGTP MTIA) and Transurban WGT Co Pty (Project Co) to provide independent oversight of design engineering, construction, program and environmental performance of the Project. The IREA undertakes audits, review of documentation and site surveillance of Project activities to assess whether conformance with Project requirements are being achieved. This includes the Environmental Performance Requirements (EPRs) issued by the Minister for Planning in December 2017.

During the reporting period the IREA audited Project Co (responsible for delivering the Project and future operator of the road) to determine conformance with the Environmental Management Strategy (the Strategy). Similarly, the IREA has audited the CPB John Holland Joint Venture (D&C Subcontractor) to determine conformance with the Construction Environmental Management Plan (CEMP), EPRs, and Worksite Environment Management Plans (WEMPs).

Prior to starting construction, the IREA reviewed the Strategy and approved the CEMP (and associated subplans). The WEMPs are approved by Project Co. The audits considered in this report are identified under the Project's EPRs (specifically EMP3) required by the Project's Planning Scheme Amendment (PSA) (GC93) and the Project Agreement between the State of Victoria (represented by WGTP MTIA) and Project Co.

The IREA is required to provide a six monthly "audit report" for submission to the Minister for Planning which must be made available to the public (this report).

## 1.2 Project Background

### 1.2.1 West Gate Tunnel Project

On 11 December 2017, the Victorian State Government (the State), as part of a Public Private Partnership (PPP), entered into contracts with Project Co for the construction and operation of the Project.

Project Co is responsible for the design, partial financing, construction, tolling, operation and maintenance of the Project. Project Co has ultimate responsibility to the State for delivering the Project to the requirements in the contract and for ensuring the D&C Subcontractor fulfils their obligations including the EPRs.

The D&C Subcontractor has been contracted to complete the detailed design and construction of the Project.

The WGTP MTIA is an administrative office established to manage the delivery of the Project in accordance with the contracts on behalf of the State Government. The Project has three components:

1. West Gate Freeway – upgrade and widening works between the M80 Ring Road interchange and Princes Freeway to the southern portals of the tunnels, including connections to Grieve Parade, Millers Road, Williamstown Road, Hyde Street, and the West Gate Bridge
2. Twin tunnels – two tunnels, one inbound and one outbound, under Yarraville catering for three lanes between the southern and northern portals and connecting to the new bridge over the Maribyrnong River. The outbound tunnel will be approximately 4.0 kilometres long and the inbound tunnel will be approximately 2.8 kilometres long. A tunnel ventilation structure will be located at each exit portal
3. Port, CityLink, and city connections – connects from the northern tunnel portal to the central city and includes the Maribyrnong River crossing, connections to the Port of Melbourne, elevated roads along Footscray Road, and connections to CityLink and the north west of the central city. Connections are also provided to both sides of the Port of Melbourne via MacKenzie Road and Appleton Dock Road. A widened Wurundjeri Way is connected to Dynon Road.

Early (preparatory) works started in December 2017 in preparation for construction. This included for instance, low environmental impact works such as completion of environmental surveys and investigations required prior to construction start. The Project started full construction in March 2018 on approval of the CEMP. Details on the construction progress over the audit period are described in Section 2.3.1

A publicly accessible Project Information Centre located on Whitehall Street in Yarraville (known as the Pivot site) is open to the public. This Project Information Centre includes interactive displays, printed information packs and is staffed during the day by members of the D&C Subcontractor Communications Team.

## 1.2.2 Planning and Environment Approvals

The Project was declared 'public works' under the *Environment Effects Act 1978* in December 2015, requiring the preparation of an Environment Effects Statement (EES) to inform the Minister for Planning's assessment of the environmental effects of the Project. The EES was publicly exhibited in late May 2017 and public hearings undertaken between mid-August and late September 2017. The Minister for Planning publicly released his Assessment on 27 November 2017 to complete the EES process – concluding that the Project would deliver substantial transport and related benefits.

Three key (primary) approvals have been granted for the Project under Victorian legislation, including:

- Planning Scheme Amendment (PSA) and Incorporated Document issued by the Victorian Minister for Planning requires the project to be constructed and operated according to the Minister's requirements. The Minister approved the project under PSA GC65 on 7<sup>th</sup> December 2017. This PSA was revoked by Parliament on 7<sup>th</sup> March 2018 and remade with PSA GC93 on 8<sup>th</sup> March 2018. The PSA has been incorporated into six separate local Planning Schemes: Brimbank, Hobsons Bay, Maribyrnong, (City of) Melbourne, Port of Melbourne and Wyndham.
- Works Approval issued by the Victorian Environment Protection Authority for design and construction of the tunnel ventilation structures.
- Cultural Heritage Management Plan (CHMP) issued by Aboriginal Victoria for works potentially affecting known and potential areas of Aboriginal Cultural Heritage Significance.

These approvals include a range of obligations and conditions, including the PSA which requires the Project to be carried out in accordance with the approved "*West Gate Tunnel Project Environmental Performance Requirements, December 2017*". The EPRs define the project-wide environmental outcomes that must be achieved during design, construction and operation of the Project (refer Appendix A for a summary list of these EPRs and the Project website for a full version - <http://westgatetunnelproject.vic.gov.au/about/keytopics/planning-approvals>).

The Environmental Management EPRs set out the following requirements:

- EPR EMP1 requires the preparation of an Environmental Management Strategy (the Strategy) to provide an overarching framework to address environmental requirements including relevant environmental laws, key approvals, approval conditions and the EPRs.
- EPR EMP2 requires the preparation and implementation of a CEMP, Worksite Environmental Management Plan (WEMP), Operational Environmental Management Plan (OEMP) and other plans as required by the EPRs in accordance with the Strategy.
- EPR EMP3 requires the appointment of an Independent Reviewer and Environmental Auditor (the IREA) to ensure compliance with the Strategy and EPRs and conduct compliance audits of the approved Strategy, CEMP and WEMPs. The WGTP MTIA must forward the audit reports to the Minister for Planning and other approval agencies as appropriate.

The EPRs set standards for the Project and are put in place to mitigate any adverse local effects of the Project on people and the environment. The EPRs have been incorporated into the Project Agreement between the State and Project Co and are included in the subcontract between Project Co and the D&C Subcontractor.

The relationship between the various Project parties and key planning and environment documents, including the Strategy, are summarised in Figure 1 below. This diagram shows the role of the Minister for Planning and other regulatory authorities in issuing approvals for the Project while continuing their role as

regulator (blue boxes). These requirements, which include regulatory approvals and EPRs, are then incorporated into a series of Project Agreements (contracts) between WGTP MTIA (representing the State of Victoria), Project Co, and the D&C Subcontractor. Project Co delegate the direct responsibility for delivering these environmental requirements to the D&C Subcontractor via the Strategy.

The Strategy lists the Project environmental requirements and minimum requirements for both Project Co and the D&C Subcontractor. In the case of the D&C Subcontractor, this includes the requirements to develop environmental documentation such as a CEMP which outlines how environmental requirements will be met during design and construction, and WEMPs, which are used on the construction site as a practical guide to manage environmental issues. The D&C Subcontractor is also required to maintain an Environmental Management System that complies with the international standard ISO14001 Environmental Management Systems. This requires the D&C Subcontractor to develop and maintain various management systems, procedures and processes that facilitate continual improvements in environmental management.

The responsibility of WGTP MTIA, Project Co and the D&C Subcontractor for delivery of the environmental management framework is summarised in Figure 2. The figure also shows how environmental requirements are incorporated into design and construction documentation. Project Co is responsible for the preparation and implementation of the Strategy in accordance with EPR EMP1. The obligation for the preparation and implementation of the CEMP (including subplans), WEMP and any other project plans required to achieve the EPRs is the responsibility of the D&C Subcontractor. Design and construction documentation is prepared by the D&C Subcontractor in accordance with relevant environmental requirements and EPRs.

Construction on the Project commenced in March 2018 following the approval of the Strategy by the IREA and the Minister for Planning and the CEMP (and subplans) by the IREA and WGTP MTIA. Further information on the Strategy, CEMP, WEMP, and the audit and review processes is provided in the following sections.

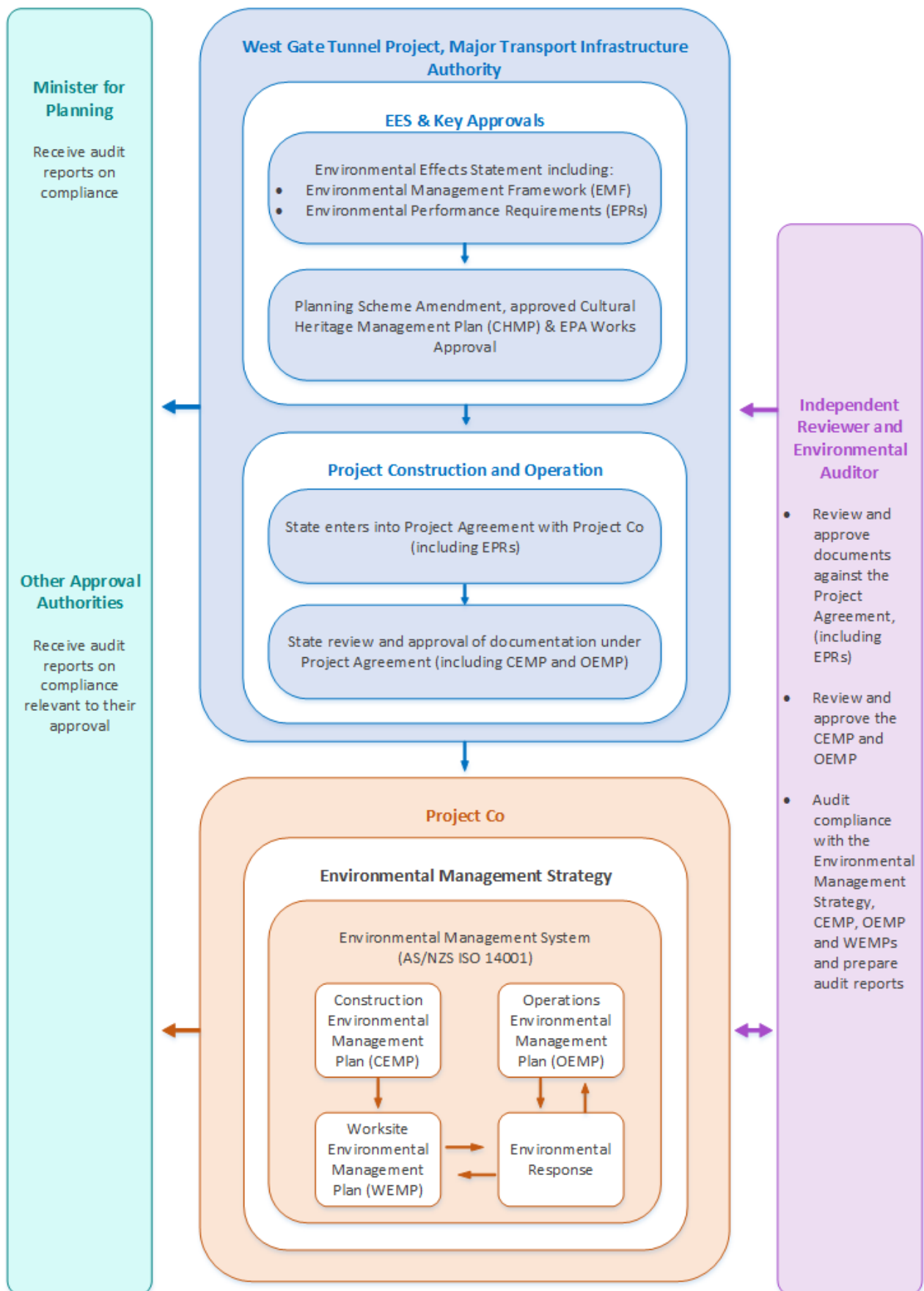


Figure 1 – Governance Framework for the Project (adapted from Strategy 2018) Environmental Management Strategy

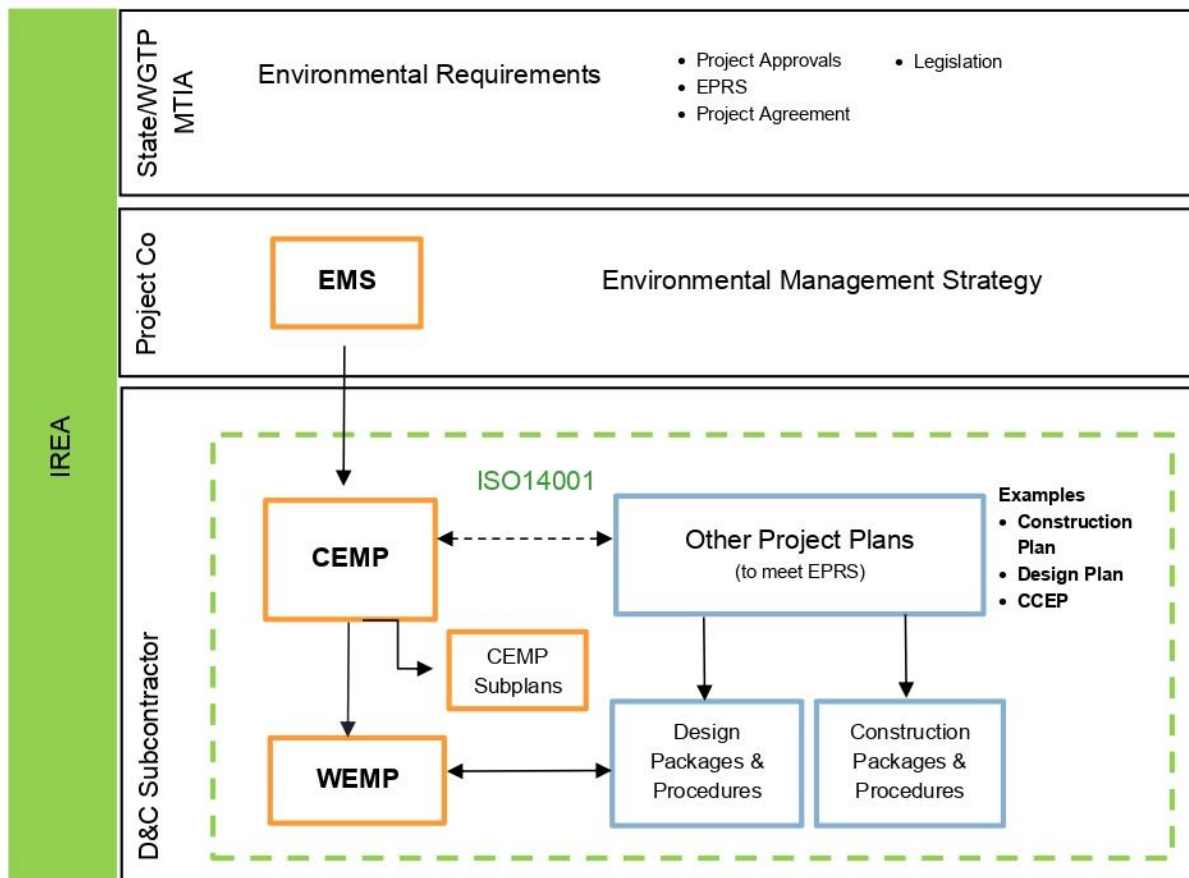


Figure 2 – Relationship between environmental management framework and Project design and construction documentation

### 1.2.3 Environmental Management Strategy

The Strategy provides an overarching framework to address all environmental requirements and manage environmental outcomes for the Project. Project Co is responsible for ensuring compliance with the Strategy which sets out the framework for delivering and complying with the EPRS, CEMP and other environmental requirements.

The Strategy was developed in early 2018, finalised on 31 January 2018, and approved by the Minister for Planning on 20 February 2018 (under PSA GC65). It was prepared in consultation with councils and other key stakeholders and reviewed by the IREA. PSA GC65 was revoked by the Parliament of Victoria on 7 March 2018, a new PSA (PSA GC93) was approved by the Minister for Planning, including re-approval of the Strategy by the Minister for Planning on 8 March 2018 in exactly the same form.

The Strategy outlines the Project's overall Environmental Management System, including responsibilities shared by the WGTP MTIA, Project Co, and the D&C Subcontractor. The Strategy is consistent with the Australian Standard for Environmental Management Systems (AS/NZ ISO 14001), which includes, but is not limited to project legal requirements, environmental management documents, roles and responsibilities, communication requirements, reporting, auditing, and processes for evaluating compliance. It is designed to provide an overarching framework to address the EPRS, which are largely delegated to the D&C Subcontractor to deliver (via the CEMP and Design Management Plans).

### 1.2.4 Construction Environmental Management Plan

The D&C Subcontractor's CEMP and subplans were developed in March 2018 and approved by the IREA and WGTP MTIA for implementation. The CEMP outlines how the D&C Subcontractor will achieve the

environmental requirements for the construction phase of the Project. This includes requirements outlined under the legislation (including permits and approvals), the Project EPRs, and requirements set out under the Project Agreement. The CEMP includes control measures for implementation during construction in order to manage, minimise or avoid environmental impacts in carrying out construction activities. The following subplans have also been developed to manage environmental risk associated with D&C Subcontractor activities and to address the requirements of EPRs:

*Table 1 – Status of CEMP and subplans<sup>1</sup>*

Plan	Update status
Construction Environmental Management Plan Rev 6 – 28 March 2018	Rev 8 – for review
Air Quality Management Plan Rev 5 – 26 March 2018	Rev 8 – for review
Water Management Plan Rev 6 – 26 March 2018	Rev 9 – for review
Groundwater Management Plan Rev 7 – 29 March 2018	Rev 9 – for review
Ground Movement Management Plan Rev 5 – 3 April 2018	Rev 7 – for review
Flora and Fauna Management Plan Rev 7 – 3 April 2018	Rev 11 – for review
Construction Noise and Vibration Management Plan Rev 5 – 3 April 2018	Rev 8 – for review
Heritage Management Plan Rev 7 – 15 July 2019	Rev 7 – approved by IREA
Soil and Spoil Management Plan Rev 4 – 26 March 2018	Rev 6 – for review
Energy Management Plan Rev 10 – 23 July 2019	Rev 10 – approved by IREA
Hazardous Substances Management Plan Rev 9 – 23 July 2019	Rev 9 – approved by IREA
Lighting Management Plan Rev 10 – 23 July 2019	Rev 10 – approved by IREA
Waste Management Plan Rev 10 – 23 July 2019	Rev 10 – approved by IREA

These sub plans do not address the entire scope of all EPRs for the Project. The CEMP makes reference to a suite of other management plans which are required to demonstrate how these and other EPRs will be complied with e.g. Design Management Plan, Construction Management Plan, Communications and Community Engagement Plan (CCEP). The CEMP (and auditing process) is the main framework document used to audit conformance with the Project EPRs (noting it delegates these requirements to other parts of the D&C Subcontractor Management Systems).

## 1.2.5 Worksite Environmental Management Plans

The D&C Subcontractor's WEMPs are prepared in order to manage discrete construction stages or work packages (by type) that may have an adverse impact on the environment. The WEMPs are subsidiary to the CEMP and are implemented at specific worksites to minimise potential impacts of construction activities on the environment and community. Each WEMP will include a map showing the location and scope of works to be managed and include environmental management measures (controls) required to be implemented. The WEMPs are for use by site personnel, consultants, and subcontractors, and a copy of the relevant WEMP is

<sup>1</sup> Subplans identified as being “approved by IREA” were subsequently issued as “Approved for Use” by the D&C Subcontractor in September 2019, noting this is outside of this reporting period.



to be displayed at each site compound. Some EPRs require engagement with regulators (including Councils) where it is considered appropriate e.g. when Council land is affected.

### **1.3 Role of the IREA**

The IREA was jointly appointed by WGTP MTIA and Project Co on 30 May 2017 to provide independent oversight of design engineering, construction, and environmental performance of the Project. The IREA undertakes audits and surveillance of Project activities to assess whether compliance with the Project Documents is being achieved. This includes EPR EMP3 which requires the IREA to complete environmental audits of conformance with the approved Strategy (six-monthly), CEMP (quarterly) and WEMPs (monthly).

The IREA started work on the Project in late 2017, through review of design and construction packages associated with “early works” (limited to low impact investigations and site set up), site surveillance of early works, and reviews of draft environmental management documentation.

Following Financial Close and the issuing of key approvals, the IREA and WGTP MTIA approved the CEMP (including subplans) prior to construction starting in March 2018. The IREA and WGTP MTIA are also responsible for reviewing subsequent revisions of the CEMP and subplans.

Now that construction has commenced, the IREA is responsible for undertaking a number of activities, described in the following sections.

#### **1.3.1 Regular Site Inspections / Surveillance**

The IREA undertakes regular inspections of the construction site (at least daily). IREA representatives are based on site in each of the three construction zones – tunnels, east, and west. The surveillance process is not the same as a formal audit as it may only address (in one inspection) part of an EPR. This information is made available to the D&C Subcontractor and summarised in weekly and monthly reports by the IREA. This surveillance assists the IREA in identifying key issues and risks which is used to inform future surveillance and auditing effort. These inspections are designated by “CS” in Appendix A, which summarises the activities that the IREA has undertaken over the last six months in relation to checking compliance with the EPRs. This shows that while not every EPR is formally “audited” by the IREA every day, it is subject to regular surveillance.

#### **1.3.2 Design and Construction Documentation Review**

The IREA reviews all design and construction packages (designated “DR” and “CR” in Appendix A). This includes, but is not limited to, reviews of documents such as design drawings, technical information packages, design packages (outlining the basis of design), construction packages, and construction procedures. These documents are reviewed by one, or more representatives of the IREA considered a specialist in their field e.g. hydrogeologist, bridge engineer, ecologist. The IREA reviews these documents against all Project environmental requirements. These reviews are sent to all Project parties for consideration and action (by the D&C Subcontractor). The IREA is required to certify design packages which means that these are not signed off until the environmental requirements are addressed. Construction packages are reviewed by the IREA and checked for compliance on site during site surveillance (refer Section 1.3.1). The outcomes of these reviews do not represent a formal audit but can provide (in part or in full) inputs into the quarterly CEMP audit which is the formal mechanism for auditing and reporting on EPR conformance.

#### **1.3.3 Management Plan Review**

The IREA is responsible for reviewing and/or approving management plans and documentation (designated “MP” in Appendix A). In approving the CEMP and subplans required prior to construction start (in March 2018), the IREA has checked compliance with the EPR linked to these CEMP subplans. Though not a formal audit, these reviews are documented in the EPR compliance table in Appendix A as they go some way to demonstrating conformance. The IREA has also reviewed a number of other plans that do not necessarily need to be included in the CEMP but remain a requirement of the EPR, such as the Communications and Community Engagement Plan (CCEP). The review process for these plans is similar to the process used for

design and construction packages, whereby the IREA's comments are documented and the D&C Subcontractor is obliged to address these in subsequent revisions of the plan before it is issued for use.

Revised versions of the CEMP and subplans were reissued to all project parties in Q2 2019 for review and approval. A number of these were approved by the IREA and Project Co and are awaiting issue to the State for final approval. However, the majority of subplans are yet to be approved by the IREA (refer Table 1).

EPR EMP3 requires formal auditing of the Strategy, the CEMP, and WEMPs (refer Section 2 for further detail on the conduct and scope of auditing). Audits of the CEMP and EPRs are undertaken every quarter (identified under the "Audit" columns in Appendix A). The IREA's indicative 12-month EPR audit schedule is included in Appendix A. Through this program all applicable EPRs are audited at least once over a twelve-month period via the quarterly CEMP audits.

### **1.3.4 Minister's Report**

The IREA in its role as independent auditor is responsible for preparing a summary audit report which WGTP MTIA must forward to the Minister for Planning during construction and other approval authorities as appropriate. This audit report draws from audits undertaken over a six-month period, in this case the (third) six months of construction between March 2019 – August 2019. The formal audits described in this Minister's Report have been undertaken by the lead IREA Environment Auditor, Elizabeth Hurst and Assistant Environment Auditors, Camilla Freestone, Sam Withers and Darcy Wall. The Lead Auditor was supported by a team of specialists listed in Appendix B.

## **1.4 Report Structure**

This report is divided into the following sections:

- Section 2: Conduct of Audits – details the scope of the IREA's audit activities undertaken prior to, during and after the audit.
- Section 3: Audit findings – provides the IREA's findings from audits of the Strategy, CEMP and WEMPs
- Section 4: Audit Conclusion –on the D&C Subcontractor's conformance with the requirements of the Strategy, CEMP and WEMPs.
- Appendices
  - Appendix A – EPR Auditing Status
  - Appendix B – IREA Specialist Team
  - Appendix C – Limitations

## 2 CONDUCT OF AUDITS

### 2.1 Audit Objectives

The objective of the audits summarised in this report is to assess conformance with the current Strategy, the CEMP, and the WEMPs based on the requirement of EPR EMP3. This includes conformance with the primary approvals (refer Section 1.2.2 above). The objective of these audits is to sample compliance with requirements over the period of March 2019 to August 2019 (inclusive).

### 2.2 IREA Auditing Process

Figure 3 below details the key steps of the IREA environmental auditing process.

### 2.3 Audit Scope

The IREA determines the scope of these audits, which changes based on which Project issues, activities and environmental risks are considered to be significant at the time of audit. Considerations may include:

- Implementation of the CEMP and associated management system and tools.
- Analyses of environmental monitoring results, focusing on groundwater, noise, vibration, surface water, and air.
- Environmental risks relating to current construction activities.
- Concerns of the community.
- Compliance status of EPRs.

The IREA reviews a sample of environmental requirements (and evidence of compliance) over the auditing period. It is not feasible or necessary to fully audit all requirements in a six-month period (there are thousands of requirements e.g. legislation, EPRs, contract, CEMP, subplans). For example, the IREA excludes requirements, such as operational EPRs, which are not part of the current scope of work.

It should be noted that while all environmental requirements are not formally audited over a six-month period, the IREA is required to “check” compliance with environmental requirements through activities such as formal review of documentation and inspection of the construction site (refer Section 1.3). This means that a much larger set of requirements relevant to the Project period will be checked by the IREA for compliance during this period.

In this six-month reporting period, 54 of the 117 EPRs were audited by the IREA. A further 56 EPRs are to be audited over the following six-month period (September 2019 to February 2020), bringing the total EPRs audited for this 12-month period to 110. The remaining EPRs not audited include six operational EPRs that are not relevant to construction, as well as one EPR that has been met (refer Appendix A).

The environmental requirements audited and checked by the IREA during this 12-month period are summarised below and shown in Appendix A.

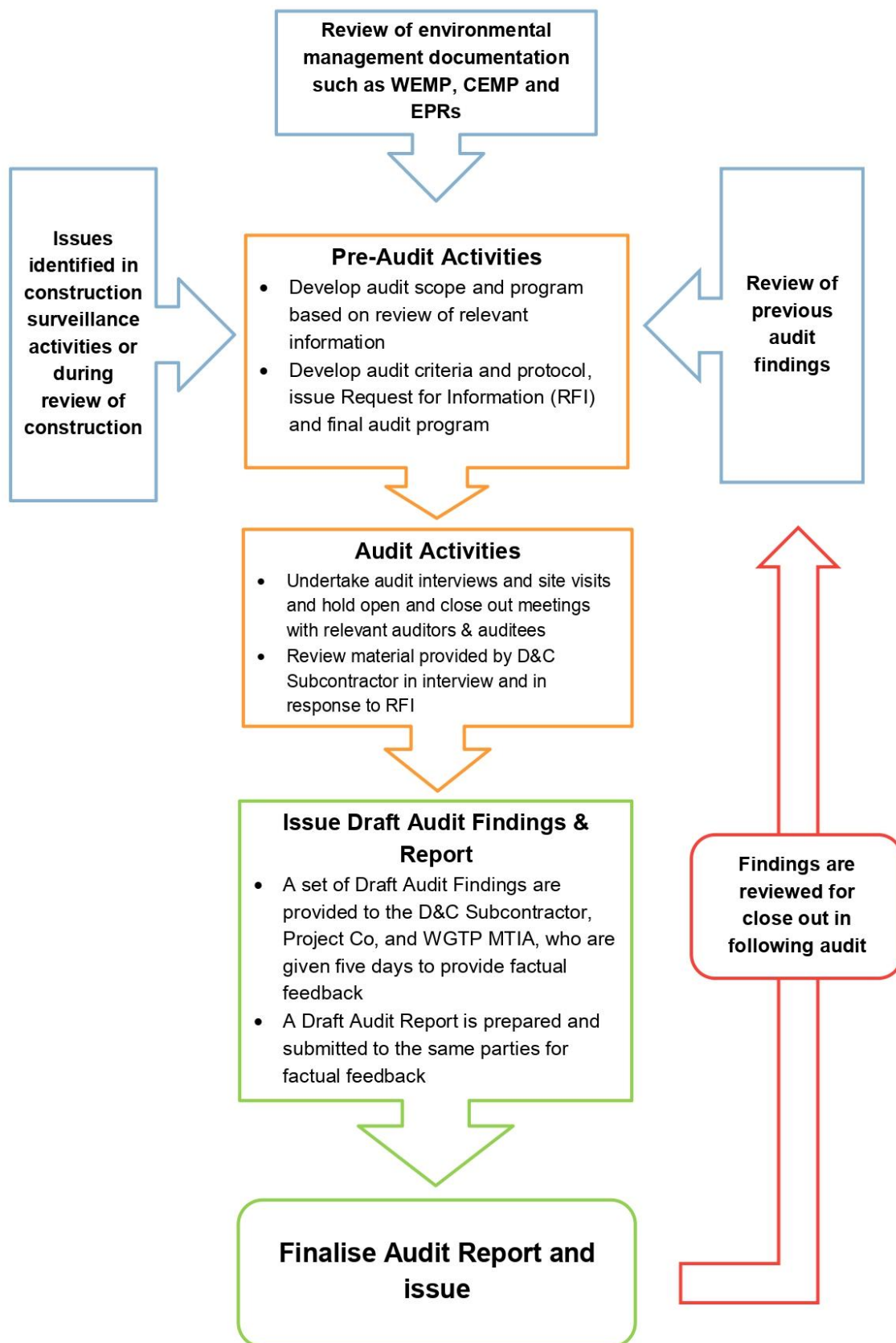


Figure 3 - Overview of environmental audit process

A summary of the scope of the audits conducted by the IREA is provided in Table 2 below.

Table 2 – Summary of Audits Conducted During Reporting Period – March 2019 to August 2019

Audit Type	Date	Scope
Strategy Audit	July 2019	<ul style="list-style-type: none"> <li>Strategy (revision 6) dated 31 January 2018 and the legislation, approvals, consents, guidelines and standards relevant to its implementation.</li> </ul>
CEMP Audit	May 2019 & August 2019	<ul style="list-style-type: none"> <li>Elements 2, 3, 4, 6, 9 and 12 of the CEMP (revision 6) dated 28 March 2018 and relevant documentation including relevant D&amp;C Subcontractor management plans and subplans such as the Flora and Fauna Management Plan and the Construction Noise and Vibration Management Plan. A full overview of CEMP documentation audited during this reporting period is provided in Section 3.3.</li> <li>A selection of EPRs relevant to the current stage of design and construction (as defined in Appendix A).</li> </ul>
WEMP Audit	March 2019 – Tunnel Zone	<ul style="list-style-type: none"> <li>Site audit at North Portal and North Yarra Main Sewer areas.</li> </ul>
	April 2019 – East Zone	<ul style="list-style-type: none"> <li>Site audit at Maribyrnong River and city connections areas.</li> </ul>
	May 2019 – West Zone	<ul style="list-style-type: none"> <li>Site audit at Grieve Parade area.</li> </ul>
	June 2019 – Tunnel Zone	<ul style="list-style-type: none"> <li>Office based audit for southern portal activities.</li> </ul>
	July 2019 – East Zone	<ul style="list-style-type: none"> <li>Site audit at the Footscray Road and city connections areas.</li> </ul>
	August 2019 – West Zone	<ul style="list-style-type: none"> <li>Site audit at the M80 area.</li> </ul>

The IREA's view on conformance was informed by interviews with staff from the D&C Subcontractor, and review of relevant systems, tools and documentation developed and implemented.

### 2.3.1 Design and Construction Activities – March 2019 to August 2019

The overall design for the Permanent Works is 94.55% complete <sup>2</sup> based on earned value.

Construction activities continue to ramp up across the Project. Recent key activities include:

- West
  - Construction works are continuing with retaining/noise walls, bridge widenings, freeway pavement widening, drainage and utility works. The D&C Subcontractor has begun works in the M80 Interchange area with bridge widening works and freeway drainage. Williamstown Bridge widening works have completed as well as the installation of a number of Ausnet 220 kV Monopoles.
- Tunnels and Portals
  - The assembly of the second tunnel boring machine (TBM) is underway, with the completion of excavation and the majority of base slabs allowing the lowering of the first TBM with its cutter head. Both the spoil shed and the connecting conveyor system at surface level have been completed. North Yarra Main Sewer (NYMS) diversion has occurred and reinstatement of NYMS sites along Whitehall Street is underway. Works in both Inbound and Outbound Southern Portal has been underway with significant work done in piling and excavation.
- East

<sup>2</sup>WGT-100-000-PRO-CJH-100-000-0008 Report Date 28 August 2019



- Flood mitigation works completed at Smithfield Bridge, precast pile driving is well progressed on the west side of the Maribyrnong river and precast pile driving on the east side of the river has recently commenced. Substructure works are ongoing at a number of bridges. The installation of the new stormwater drain along the south verge of Footscray Road and City West Water's new watermain relocation are both progressing well along Footscray Road. Stage 2A traffic switch took place in early August to allow for works in the Footscray Road centre median between Appleton Dock Bridge and Dock Link Road.



Photo 1 – Maribyrnong River pile driving – East Zone (Source: IREA, 20 September 2019)

## 2.4 Audit Findings Classification

Audit findings are classified in each audit according to the following definitions which are aligned to classifications provided by AS/NZS ISO14001: 2015, the Joint Accreditation System of Australia and New Zealand (JAS-ANZ), and audit classifications utilised on previous high-profile Victorian infrastructure projects. The definitions of conformance, non-conformance, opportunity for improvement, observation, and not applicable are provided below.

### Conformance

There is suitable evidence to confirm that actions have been undertaken, prepared and/or implemented in full conformance with the requirements of the auditable element. Findings are reported by exception only, and as such conformances are not detailed within this report.

## **Non-conformance**

An instance, event or occurrence that has not fulfilled a requirement that has been specified in the Strategy, CEMP, WEMP, EPRs, legislation, and approval conditions. A situation, which would, on the basis of available objective evidence raise significant doubt as to the effectiveness of environmental management.

(Note 1: A non-conformance may be an individual non-conformance or a number of minor but related audit findings, which when considered in total are judged to constitute a non-conformance.)

## **Opportunity for Improvement**

A deficiency in the implementation of the Strategy, CEMP, WEMPs, or associated documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.

(Note: The title of this category has been modified from the last report without any change to the definition. The previous title of this finding category was “Area for Improvement”.)

## **Observation**

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. Observations are also made to note a positive improvement on the Project.

## **Not Applicable**

The auditable element falls outside the scope of the audit, e.g. work relevant to the element being audited has not yet commenced. Findings are reported by exception only, and as such ‘Not Applicable’ findings are not detailed within this report.

It should be noted that the audit only reports on non-conformances, areas for improvement and observations against the CEMP findings. All other areas within the scope of the audit should be assumed to be compliant. Where EPRs have been audited, compliance findings are also included.

The IREA does not require observations to be formally closed out after they have been issued and therefore will not report these in subsequent audit reports. It is the responsibility of the D&C Subcontractor and Project Co to address these findings.

## **Significance of Findings**

The nature of findings may vary. In reviewing the results of audit findings, it is necessary to understand the context in which they have been issued. For instance, some findings may be administrative in nature compared with those that pose an immediate and/or significant risk to the environment. An example of an administrative finding might include the requirement for the D&C Subcontractor to use a particular system to record incidents, where this is defined in the CEMP. However, if the D&C Subcontractor has upgraded this system and replaced it with an alternative, this means the CEMP is now out of date and does not reflect current practices. The D&C Subcontractor in this case may not be conforming with the original CEMP (which is captured as a non-conformance in an audit), but it does not necessarily mean that incidents are not being reported. This requirement is likely to be modified in the next version of the CEMP. Administrative findings therefore do not always pose a significant risk to the environment.

Alternatively, if the D&C Subcontractor was found to have caused an incident resulting in a discharge to the river, this would be viewed as an environmental non-conformance of greater significance.

Similarly, some findings are localised (rather than systemic) in nature. For example, a non-conformance raised against a WEMP may reflect an immediate issue at a particular worksite, which can be addressed and closed out by taking immediate on-site action.



Photo 2 – Works in the West Gate Freeway median – West Zone (Source: WGTP MTIA, 29 August 2019)



### 3 SIX-MONTHLY AUDIT FINDINGS

The key findings arising from the IREA's third six months of auditing are included in the sub-sections below.

- Section 3.1 summarises audit findings of the Strategy
- Section 3.2 outlines findings of formal auditing and checking of EPRs
- Section 3.3 describes audit findings against the CEMP and subplans
- Section 3.3.12 provides findings of the WEMP audits.

#### 3.1 Environmental Management Strategy

Audits of the Strategy are conducted 6-monthly, with one conducted during the reporting period. Overall, Project Co was found to be meeting its obligations under the Strategy.

No non-conformances were raised against Project Co during the Strategy audit.

Four new opportunities for improvement were raised concerning:

- A recommendation for Project Co to better define how they expect the D&C Subcontractor to demonstrate compliance with the requirement for "continual improvement" under the Strategy, including in relation to how "continual improvement" is measured, achieved and facilitated.
- Project Co may wish to clarify the applicability of changes in environmental legislation and whether they override (or not) existing contractual conditions e.g. SEPP (Waters)
- Clarification on how Project Co are managing the D&C Subcontractor to "ensure" that the Project is delivered in accordance with environmental requirements as required under the Strategy. For example, during the audit Project Co indicated that they have no authority or responsibility to deliver the requirement for "taking corrective action" having delegated this to the D&C Subcontractor.
- The need for new Project Co staff (particularly those who are site-based) to attend environmental inductions.

Four new observations were raised concerning:

- Project Co rely on the IREA to audit the D&C Subcontractor, including in regards whether they are operating under an ISO14001 compliant system and do not independently check this.
- Project Co do not currently have a process in place for checking that the D&C Subcontractor is compliant with their secondary consents.
- The IREA has raised concerns regarding the D&C Subcontractor's definition of compliance, and therefore question whether Project Co have an accurate picture of Project compliance. For example, the IREA has noted that exceedances to Trade Waste Agreements are not necessarily reported on as either incidents or non-conformances.
- Project Co are obliged to report on audits undertaken by the D&C Subcontractor to the State, however Project Co do not appear to have received all internal audits undertaken by the D&C Subcontractor to date.

The four opportunities for improvement raised in the current reporting period remain open.

#### Previous reporting periods

The two opportunities for improvement raised in the previous reporting periods remain open. The finding regarding Project Co working with the D&C Subcontractor to close out findings other than non-conformances could not be closed as no evidence was provided to demonstrate that Project Co work with the D&C Subcontractor to routinely address observations. The finding regarding Project Co not being involved with responding to and managing incidents could not be closed, because the updated Project Co Environmental Management Plan does not provide sufficient justification for Project Co not meeting the requirement to be involved with incident management and responses.

## 3.2 Environmental Performance Requirements

The majority of EPRs formally audited during the reporting period were considered compliant, with the exception of five non-conformances, two against air quality EPRs (AQP4 and AQP6) and three against noise and vibration EPRs (NVP7, NVP8 and NVP18). A number of opportunities for improvement and observations were also raised, noting that the following section focuses on non-conformances and opportunities for improvement only. One non-conformance was outstanding from the previous reporting period, namely against NVP10.

Project Co / the D&C Subcontractor is responsible for delivering the majority of EPRs listed below unless otherwise specified as being delivered by the State.

### 3.2.1 Environmental Management

Two environmental management EPRs were audited during this period, namely EPRs EMP2 and EMP4.

In both instances, an opportunity for improvement finding was raised. The first finding related to delays in updating the CEMP and sub-plans. Approved versions of the plans were over 12-months old and not keeping pace with current site practices (EMP2). The second finding related to the lack of clarity on how enquiries and complaints are defined and classified within the D&C Subcontractor's consultation database (EMP4).

Both opportunities for improvement raised during this reporting period remain open.

#### Previous reporting periods

One opportunity for improvement was previously raised against EMP4 regarding the limited range of environmental aspects available to categorise complaints against within the D&C Subcontractor's consultation system. This remains open awaiting update of the D&C Subcontractor's Construction Communications and Community Engagement Plan.

Refer also to related CEMP findings in Section 3.3.

### 3.2.2 Air Quality

Five air quality EPRs were audited during this period, namely EPRs AQP1-4, and AQP6.

Two non-conformances were raised. The first non-conformance was raised against AQP4 for ambient air quality data not being made available on the West Gate Tunnel Project public website on a monthly basis. Air quality monitoring had been undertaken and data provided to the air quality consultant for analyses, but the IREA identified delays in making reports public of up to two months. Project parties indicated this was delay was related to the time required to apply appropriate levels of review and data validation, noting there are three organisations involved. Review and issue of this report is a shared responsibility between the D&C Subcontractor, Project Co and the State.

A second non-conformance was raised against AQP6 due to the fact that no construction dust monitoring had been undertaken in the West Zone from February to March 2019. This resulted in a data gap during the hottest part of summer when the risk of dust generation is considered to be high. This non-conformance was subsequently closed following the deployment of dust monitoring equipment across the West Zone. A (positive) observation was also raised due to the installation of permanent dust monitoring at all sites.

One opportunity for improvement was also raised against AQP6, due to lack of justification within construction documentation for selecting the locations, frequency and duration of construction air quality monitoring.

One additional observation was raised against AQP3 regarding the need to undertake further sensitivity analyses for nitrogen dioxide (NO<sub>2</sub>) in-tunnel air quality.

AQP1 and AQP2 were deemed compliant.

The remaining Air Quality EPRs, AQP5 and AQP7, are operational EPRs and will not be audited during the construction phase of the Project.

### **Previous reporting periods**

An opportunity for improvement from the previous period (AQP6) was closed in this reporting period as a result of general improvements to construction air quality management practices i.e. a larger, more comprehensive air quality monitoring network is in place and operational compared with the previous six-month reporting period. There are now no outstanding EPR air quality findings from previous reporting periods.

Refer also to related AQMP findings in Section 3.3.1.

### **3.2.3 Business**

Two business EPRs were audited during this reporting period, namely BP5 and BP7.

An opportunity for improvement was raised against BP5. This finding identified that the Business Involvement Plan (BIP) contains outdated content on the review phase of the consultation framework. Furthermore, it was also identified that the BIP does not adequately address the interface between procedures to minimise impacts on access to business during construction and the land acquisition process. Specifically with respect to allocation of roles and responsibility for communicating with impacted businesses.

BP7 was deemed compliant.

### **Previous reporting periods**

One opportunity for improvement from the March 2018 – August 2018 period remains open against BP5. This finding relates to a number of IREA comments on the Business Involvement Plan remaining outstanding, namely the lack of detail in the process for identifying 'impacted' business and no references in the BIP to Sub-zone plans or an action matrix. An opportunity for improvement against BP7 was closed following the D&C Subcontractor recording a non-conformance for a breach of a utility exclusion zone in their system.

### **3.2.4 Cultural Heritage**

Six cultural heritage EPRs were audited during this period, namely CHP1, 3, 5-7 and 9.

One opportunity for improvement was raised against CHP1 for the lack of a process for tracking and recording which works had been checked off and approved by Project's Heritage Advisor.

Two observations were raised. One against CHP3 for a lack of consistency and integration between the HMP and the Historic Places and Archaeological Management Plan (HPAMP), as currently the plans do not effectively reflect each other's content. One observation was raised against CHP7 to note the need for Project Co / the D&C Subcontractor's new Heritage Interpretation Design Package to provide a clear reference to the HPAMP and other heritage interpretation documentation that it should draw information from.

CHP5, CHP6 and CHP9 were deemed compliant.

### **Previous reporting periods**

Three opportunities for improvement were closed during the reporting period in August 2019 as a result of a number of design packages and reports being updated to address the relevant cultural heritage EPRs (i.e. for CHP6, CHP7 and CHP8).

An opportunity for improvement raised against CHP5 regarding the unclear process of photo archival recording of heritage items remains open. This can be closed once Project Co/ the D&C Subcontractor clearly document the process for the specific type of archival recording required for each heritage item.

Refer also to related HMP findings in Section 3.3.8.

### 3.2.5 Contaminated Soil and Spoil Management

Two contaminated soil and spoil management EPRs were audited during this reporting period, namely CSP1 and CSP2.

Three findings were raised, including two opportunities for improvement and one observation. The opportunity for improvement raised against CSP1 was for the Soil and Spoil Management Plan (SSMP) not providing clear enough guidance on the processes and measures that need to be undertaken to comply with the standards and statutory requirements it references. The opportunity for improvement raised against CSP2 resulted from the D&C Subcontractor not adequately justifying whether heavy metals detected in Project soil samples are naturally occurring or not. The observation raised against CSP2 related to the gaps in the process for testing the impact of drilling additives on soil classifications.

#### Previous reporting periods

An opportunity for improvement raised in August 2018 against CSP2 remains open. This is in relation to the status of the Sampling Analysis and Quality Plans (SAQPs) and outstanding review comments on the SSMP.

Refer also to related SSMP findings in Section 3.3.10.



Photo 3 – Tunnel spoil processing shed (Tunnel Zone) (Source: WGTP MTIA, 29 August 2019)

### 3.2.6 Ecology

Four ecology EPRs were audited during the reporting period, namely EP1, EP2, EP4 and EP5.

One opportunity for improvement was raised against EP4 . This related to documenting the process and outcome of updating ecological assessments including when and why an ecologist is required to resurvey an area immediately prior to construction clearance.

EP1, EP2 and EP5 were deemed compliant.



### Previous reporting periods

The opportunity for improvement raised against EP4 during the February 2019 CEMP audit remains open until the FFMP adequately addresses the reporting requirements for this EPR.

Refer also to related FFMP findings in Section 3.3.4.

## 3.2.7 Greenhouse Gas Emissions

Both greenhouse gas emission EPRs were audited during the reporting period (GGP1 and GGP2). One opportunity for improvement was raised against GGP2 due to delays in obtaining approval from the Infrastructure Sustainability Council Australia (ISCA) for the D&C Subcontractor's Base Case, as ISCA has issued a number of comments on the draft base case proposal. The comments are yet to be addressed. This has the potential to impact on the Project achieving the mandatory ISCA credits.

### Previous reporting periods

One opportunity for improvement raised against GGP2 in August 2018 remains open. Insufficient evidence has been provided from the D&C Subcontractor to show that embodied GHG emissions of Project materials are benchmarked or calculated, or how design decisions responding to GHG emission reduction processes are mapped to GHG reduction targets.

## 3.2.8 Ground Movement

Four ground movement EPRs were audited during the reporting period, namely GMP1 and GMP3 – 5, and all were deemed compliant.

### Previous reporting periods

The opportunity for improvement raised against GMP1 was closed during the reporting period as the D&C Subcontractor was able to demonstrate that recent geotechnical information had been incorporated into the relevant design package. Two opportunities for improvement raised against GMP3, and GMP5 remain open until the outstanding comments on the GMMP in relation to these EPRs have been resolved.

Refer also to related GMMP findings in Section 3.3.5.



Photo 4 – North Portal TBM construction and launch pad – Tunnel Zone (Source: WGTA, 29 August 2019)

### 3.2.9 Groundwater

Six groundwater EPRs were audited during the reporting period, namely GWP1 – 6. Findings raised against these EPRs included two new opportunities for improvement (GWP1 and GWP5) and one new observation (GWP2).

One opportunity for improvement was raised against GWP1 due to the GWMP requiring updates to address the current scope of works. This includes detailing timeframes for assessing water quality and water level alert and action exceedances, outlining clear roles and responsibilities and providing clear process around environmental incident reporting and management of shallow groundwater.

Another opportunity for improvement was raised against GWP5 due to the D&C Subcontractor not installing barometric loggers around the North Portal. The opportunity for improvement against GWP5 has since been closed as the D&C Subcontractor are now using data from the Bureau of Meteorology (BOM) to assess the impact of atmospheric pressure on groundwater levels.

The observation against GWP3 related to the D&C Subcontractor needing to assess the potential for chemical additives used for tunnelling to impact on groundwater quality.

#### Previous reporting periods

The four opportunities for improvement (i.e. GWP2, GWP3, GWP5 and GWP6) raised during previous reporting periods remain open. To address these findings the GWMP and associated procedures need to be updated to reflect the current scope of work and site practices.

Refer also to related GWMP findings in Section 3.3.6.

### 3.2.10 Land Use

Three land use EPRs were audited during this period, namely LPP1, LPP3, and LPP4. All EPRs were deemed compliant.

#### Previous reporting periods

No non-conformances or opportunities for improvement were raised in the previous periods.

### 3.2.11 Landscape and Visual

No landscape and visual EPRs were audited in the current reporting period.

#### Previous reporting periods

No non-conformances or opportunities for improvement for landscape and visual EPRs were raised in the previous periods.

### 3.2.12 Noise and Vibration

Ten noise and vibration EPRs were audited during the reporting period, namely NVP1, NVP2, NVP5, NVP7, NVP8, NVP10, NVP11, NVP13, NVP14 and NVP18. Seven findings were raised, including three non-conformances against NVP7, NVP8 and NVP18 (all escalated from opportunities for improvement raised in August 2018). Four opportunities for improvement were raised against NVP8 (2 separate findings), NVP10 and NVP14.

The non-conformance against NVP7 was raised against two key issues. Firstly, the CNVMP was out of date and did not address the current scope of works. For example, the plan included out of date noise and vibration modelling results relevant to construction works on site. Secondly, the D&C Subcontractor could not provide a clear evidence trail to demonstrate compliance with NVP7 and the CNVMP. Particularly, with

regards to how modelling and monitoring are used to drive management and specific mitigation of impacts. The lack of sufficient evidence raises concerns as to the effectiveness of noise management.

A similar non-conformance was raised against NVP8 relating to the D&C Subcontractor being unable to provide a clear evidence trail to demonstrate compliance with NVP8. The D&C Subcontractor has been unable to demonstrate they are tailoring their management approach to the results of predictive modelling or monitoring. The non-conformance against NVP18 also reflects the lack of documented examples of noise mitigation and management measures being put in place.

Significantly for the IREA, in the absence of evidence of compliance, these three EPRs have been found to be non-compliant. This doesn't necessarily mean that the Project is not managing noise adequately, but that there is insufficient evidence to demonstrate compliance.

Of the two opportunities for improvement raised against NVP8, one related to the D&C Subcontractor's noise modelling program, SoundAdvice. The other related to noise management levels (NMLs) that have been incorrectly or inconsistently applied by the D&C Subcontractor. The opportunity for improvement raised against NVP14 was a result of the lack of detail in the tunnel ventilation design package to demonstrate compliance with State Environment Protection Policy (SEPP) N-1. An opportunity for improvement was raised against NVP10 due to construction procedures not including mitigation measures for predicted vibration (amenity) exceedances, or alternatively providing justification as to why no mitigation was required.

### **Previous reporting periods**

Given that three previous opportunities for improvement had been escalated to non-conformances during the reporting period, the only outstanding finding from previous audits is a non-conformance raised against NVP10. This relates to vibration (for amenity) and the lack of sufficient documentation to demonstrate compliance. This finding is outstanding.

Refer also to CNVMP findings in Section 3.3.2.

## **3.2.13 Social**

Two social EPRs were audited during the reporting period (SP2 and SP3). Two opportunities for improvement were raised against SP2, while SP3 was considered compliant.

The first opportunity for improvement related to the D&C Subcontractor clarifying what environmental monitoring data is to be made publicly available, and how community members are able to access this information. The second opportunity for improvement was issued to community notifications lacking details on noise attenuation measures which is a commitment of the CCEP.

### **Previous reporting periods**

An opportunity for improvement against SP5 remains outstanding as the Community Involvement and Participation Plan (CIPP) has not been finalised and issued<sup>3</sup>. This is the responsibility of the State.

## **3.2.14 Surface Water**

Six surface water EPRs were audited during the reporting period, namely SWP1, SWP7 and SWP9 – 12. One opportunity for improvement and two observation were raised.

One opportunity for improvement was raised against SWP7 in relation to whether best practice management of sediment and erosion control in accordance with EPA publications 275, 480 and 960 is included in the revised temporary drainage design for the Pivot site. This will be resolved pending issue of the final design.

An observation against SWP1 was raised for some minor inconsistencies in the north portal compensatory basin design package and a lack of clear process for considering other possible sources of contaminants that may impact on surface water drainage for temporary works. The other observation was raised against SWP11 due to the D&C Subcontractor establishing temporary facilities in areas modelled to be impacted by 1% AEP flood levels without receiving a letter of no objection from Melbourne Water.

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<sup>3</sup> The CIPP is in the final stages of consultation and is expected to be launched shortly.



The EPRs SWP9, SWP10 and SWP12 were deemed to be compliant.

### Previous reporting period

One opportunity for improvement remains open from previous reporting periods (SWP1). This relates to the temporary drainage design at the Pivot site which does not reflect what has been implemented onsite and lack of MUSIC modelling to demonstrate compliance with SEPP (Waters of Victoria).

Refer also to WMP findings in Section 3.3.12.

## 3.2.15 Transport

No transport EPRs were audited during the reporting period.

### Previous reporting periods

There are no outstanding non-conformances or opportunities for improvement from previous reporting periods.



Photo 5 – Construction works on the West Gate Freeway – West Zone (Source: WGTP MTIA, 29 August 2019)

## 3.2.16 Waste Management

Environmental Performance Requirement WMP1 was not audited during the reporting period.

### Previous reporting periods

EPR WMP1 was previously audited in the second reporting period and was deemed compliant.



### 3.3 Construction Environmental Management Plan

#### Overview

CEMP audits are conducted on a quarterly basis, with two CEMP audits conducted during the reporting period.

During the May 2019 audit the following management plans and sections were audited:

- CEMP (Element 2 Planning, Element 6 Subcontractors, Element 9 Incidents and Element 12 Auditing Review and Improvement)
- Construction Noise and Vibration Management Plan (general overview)
- Flora and Fauna Management Plan (Section 5 Management Measures and Appendix B Tree Management Plan)
- Water Management Plan (Section 5 Management Measures and Section 6 Monitoring)
- Ground Movement Management Plan (Section 4 Monitoring and Section 7 Auditing, Review and Improvement)
- Groundwater Management Plan (Section 5 Monitoring, Section 6 Groundwater Impact Mitigation Measures, Section 7 Trigger Values and Section 10 Groundwater Disposal)
- Heritage Management Plan (Section 5 Heritage Management, Section 9 Training and Awareness and Appendix 4 Historical Places & Archaeological Management Plan)

During the August 2019 audit the following management plans and sections were audited:

- CEMP (Element 3 Legal and Other Requirements, Element 4 Risk and Opportunity, Element 9 Incidents and Element 12 Auditing, Review and Improvement)
- Flora and Fauna Management Plan (Section 5 Management Measures and Section 6 Monitoring and Reporting)
- Energy Management Plan (Section 4 Management Measures and Section 6 Monitoring and Reporting).

#### Current Reporting Period

There were fifteen findings raised against the CEMP (excluding subplans) during the reporting period.

Three non-conformances were raised in relation to:

- Not entering environmentally relevant community complaints into the appropriate system within a specified timeframe
- A number of subplans were not reviewed and updated within six months as required by the PSR
- An internal management review has not been undertaken.

Eight opportunities for improvement were raised against the following:

- The D&C Subcontractor was unable to demonstrate what criteria or data is used to demonstrate compliance. It was also unclear who is responsible for providing multiple sources of data to support statements of compliance
- Unclear process on how environmental management documentation was being provided to subcontractors, particularly to non-contestable utility service providers
- Lack of dedicated environment (only) audits of subcontractors, including of those subcontractors undertaking high risk activities
- Incidents not being reported in the D&C Subcontractor's system
- Approval owners not being identified on the External Statutory Approvals Register
- Not all site-specific environmental risks are being captured in the relevant zone risk registers. For example, a site-specific risk register was provided which identified the activities to be undertaken and the

environmental controls to be implemented, but did not discuss the nature (environmental context) of the site (in this case the zone had a high risk of PFAS presence)

- Classification of incidents within the D&C Subcontractor's system
- Not all CEMP elements having been internally audited over a 12-month period.

Four observations were raised, one against the application of new legislation to the Project, one against the structure of the D&C Subcontractor's environmental management plans, one against lack of procedures for trade wastewater quality sampling and one against tracking trade waste agreement discharge trends.

### Previous Reporting Periods

Of the previous non-conformances and opportunities for improvement findings raised, one non-conformance relating to the definition of non-compliance was closed during this reporting period. This leaves nine findings remaining open including two non-conformances and seven opportunities for improvement.

The two outstanding non-conformances relate to:

- Inconsistencies in preparation of Construction Documentation, specifically WEMPs (Section 3.5.4).
- The absence of a system for capturing and analysing environmental monitoring data (Element 2.2).

Seven opportunities for improvement remain open from the previous periods. These relate to:

- The D&C Subcontractor have not provided evidence to demonstrate tracking of objectives, targets, and KPIs (CEMP Element 3.4).
- The D&C Subcontractor is yet to demonstrate it is undertaking adequate consultation with stakeholders in the development of WEMPs (CEMP Element 6.2).
- No documented process for the review and issuing of WEMP revisions. This finding remains open, pending updates to the CEMP, subplans, and WEMP review process (CEMP Element 11.1).
- The systems used for document management are not adequately described in the CEMP or Project Quality Plan (CEMP Element 11.12).
- The Design Management Plan does not address the design development process (CEMP Section 3.6).
- The D&C subcontractor is required to coordinate meetings with councils and other stakeholders, records of these meetings have been referred to, however no evidence of this has been provided to close the finding out (CEMP Element 6.3).
- The D&C Subcontractor's monthly environmental performance report does not adequately address the requirements of the CEMP (CEMP Element 12.2).

Findings raised against the subplans are discussed below.

### 3.3.1 Air Quality Management Plan

The Air Quality Management Plan was not specifically audited during this reporting period.

#### Previous reporting periods

One opportunity for improvement remains open from a previous reporting period. This relates to a number of outstanding areas of implementation of the AQMP, including consistent analysis of dust monitoring data, which is improving across the Project.

Refer to Section 3.2.2 for findings relating to air quality EPRs.

### 3.3.2 Construction Noise and Vibration Management Plan

The Construction Noise and Vibration Management Plan was not specifically audited during this reporting period.

### **Previous reporting periods**

One non-conformance (baseline noise monitoring) and one opportunity for improvement (response to complaints) from previous reporting periods were closed. Currently one non-conformance and three opportunities for improvement remain open from previous reporting periods. At a high level these outstanding findings relate to how noise modelling and noise monitoring data is used to inform mitigation and management actions and how these are documented and communicated.

Refer to Section 3.2.12 for findings relating to noise and vibration EPRs.

### **3.3.3 Energy Management Plan**

Two findings were raised against the EMP during this reporting period. One opportunity for improvement was raised relating to the D&C Subcontractor's Monthly Progress report not documenting greenhouse gas emission performance. A second observation was made in relation to energy efficiency training not having been undertaken.

This was the first time the EMP had been audited therefore there are no open findings from previous reporting periods.

### **3.3.4 Flora and Fauna Management Plan**

Four findings were raised against the FFMP during the reporting period, including two opportunities for improvement and two observations. The opportunities for improvement related to: (1) lack of recent flora and fauna toolboxes being delivered in sensitive areas, and (2) not all fauna relocations being logged in the D&C Subcontractor's system. The two observations related to: (1) the fencing specification in the Tree Management Plan cannot always be achieved because of various site constraints, and (2) the absence of professional ecologist involvement in relocation of non-native fauna.

### **Previous reporting periods**

No findings remain open from the previous reporting period.

Refer to Section 3.2.6 for findings relating to ecology EPRs.

### **3.3.5 Ground Movement Management Plan**

One opportunity for improvement and one observation was raised against the GMMP during the reporting period. The opportunity for improvement was due to the GMMP not having been submitted for the mandatory six-monthly update and review. The observation related to the GMMP being unclear on what scenarios would require an update of the geotechnical model.

### **Previous reporting periods**

No findings remain open from the previous reporting periods.

Refer to Section 3.2.8 for findings relating to ground movement EPRs.

### **3.3.6 Groundwater Management Plan**

Two opportunities for improvement and one observation were raised against the GWMP during the reporting period. The opportunities for improvement relate to incidents not being reported in the D&C Subcontractor's system for trade waste and groundwater alert levels. The observation related to how the D&C Subcontractor are communicating PFAS levels in trade waste discharge to City West Water.

### **Previous reporting periods**

One opportunity for improvement from previous reporting periods was closed in relation to establishment of the groundwater quality baseline. One opportunity for improvement remains open from the previous reporting

period in relation to baseline data being presented in multiple locations, making review and assessment difficult.

Refer to Section 3.2.9 for findings relating to groundwater EPRs.

### **3.3.7 Hazardous Substances Management Plan**

The Hazardous Substances Management Plan was not specifically audited during this reporting period.

This subplan has not been audited previously.

### **3.3.8 Heritage Management Plan**

One opportunity for improvement was raised during the reporting period. This was raised in relation to inconsistencies within the HMP with one section of the document requiring fencing and flagging around heritage places and another section not explicitly requiring fencing and flagging.

#### **Previous reporting periods**

No findings remain open for the previous reporting period.

Refer to Section 3.2.4 for findings relating to cultural heritage EPRs.

### **3.3.9 Lighting Management Plan**

The LMP was not specifically audited during this reporting period.

This subplan has not been audited previously.

### **3.3.10 Soil and Spoil Management Plan**

The SSMP was not specifically audited during this reporting period.

#### **Previous reporting periods**

One opportunity for improvement remains open from the previous reporting periods, as the materials tracking register does not identify the site domain (location) of excavated materials.

Refer also to Section 3.2.5 **Error! Reference source not found.** for findings relating to soil and spoil EPRs.



Photo 6 – South Portal bulk excavation – Tunnel Zone (Source: WGTP MTIA, 29 August 2019)

### 3.3.11 Waste Management Plan

The Waste Management Plan was not specifically audited during this reporting period.

#### Previous reporting periods

No findings remain open from previous reporting periods.

### 3.3.12 Water Management Plan

Two opportunities for improvement were raised against the WMP during this reporting period.

One related to how the D&C Subcontractor are managing any potential risks associated with storing contaminated stockpiles within the 1% AEP flood level. The other opportunity for improvement noted that Construction Documentation typically does not outline increased surface water monitoring frequency despite this being committed to in the WMP.

#### Previous reporting periods

One non-conformance raised in the previous reporting period remains outstanding. This was in relation to lack of evidence that post-rainfall surface water monitoring had been undertaken.

Refer to Section 3.2.14 for findings relating to surface water EPRs.

## 3.4 Worksite Environmental Management Plan

WEMP audits are conducted on a monthly basis, with six WEMP audits conducted during the reporting period. A total of 48 findings were raised in this reporting period compared to 25 in the previous reporting period. Three non-conformances were raised which is consistent with the previous reporting period. The remaining 45 findings from this period are relatively evenly split between opportunities for improvement (22) and observations (23).



The three non-conformances identified during this reporting period related to (1) the incorrect WEMP being used at a construction work front, (2) vegetation clearing had been undertaken without following the appropriate Permit to Clear Land and Vegetation procedure, and (3) an incident report was not raised in the D&C Subcontractor's systems within the appropriate timeframe.

Of all WEMP findings, 48% related to environmental management which were administrative in nature, 17% related to surface water and 13% percent related to noise and vibration. The remaining 23% related to a mix of issues such as air quality, contaminated soil and spoil, ecology and groundwater.

To date the close out of WEMP audit findings has been slow. Of the 25 non-conformances and opportunities for improvement raised in the reporting period five have been closed. Eighteen non-conformances and opportunities for improvement remain open from the previous reporting periods, including eight raised in the first Ministers Report reporting period (March 2018 – August 2018).

In total there are 38 WEMP audit findings which remain open since construction began in March 2018, comprising ten non-conformances and 28 opportunities for improvement.

### **3.4.1 East Zone**

New works areas continued to open up in the East Zone during the reporting period. The Shared Use Path on the southern verge of Footscray Road along with the first traffic switch along Footscray Road was completed. Various utilities have been relocated or are in the process of being relocated. Piling has commenced in various locations including Maribyrnong Street and Mackenzie next the Maribyrnong River, the centre median of Footscray Road and the old Fish Market area.

Seven findings were raised during WEMP audits of the East Zone in this reporting period.

Five were opportunities for improvement against various aspects of the works including, an out of date WEMP, analysis of dust monitoring data being inadequate, sediment control being insufficient, hazardous spill training not having been undertaken, and incomplete clearing permit documentation.

Of the two observations raised, one was against stabilised access not being sufficient for a specific work area, and one for stockpiled material not being clearly signposted on site.

#### **Previous reporting periods**

All WEMP audit findings from the two previous reporting periods have been closed, including four non-conformances and two opportunities for improvement.

### **3.4.2 Tunnel Zone**

The assembly of the second tunnel boring machine (TBM) is underway, with the completion of excavation and the majority of base slabs allowing the lowering of the first TBM with its cutter head. Both the spoil shed and the connecting conveyor system at surface level have been completed. The NYMS diversion has occurred and reinstatement of NYMS sites along Whitehall Street is underway. Works in both Inbound and Outbound Southern Portal is underway with significant work done in piling and excavation. The Water Treatment Plant at Pivot site has been commissioned and is on-line. The groundwater recharge works for both southern portals and the Spotswood and Yarraville off-alignment recharge schemes are nearing completion.

Twenty-five findings were raised during WEMP audits of the Tunnel Zone in this reporting period.

Two non-conformances were raised, one against the wrong version of the WEMP being displayed on a site notice board and an incident not being raised within the D&C Subcontractor's system within an appropriate time.

Eight opportunities for improvement were raised, one against a WEMP not being up to date, one against insufficient analysis of noise monitoring data, one against complaints tracking, one against insufficient erosion and sediment control, one against the storage of hazardous goods, one against the disposal of trade waste and one against a poorly maintained concrete washout.

Fifteen observations were also raised, six against environmental management aspects, two against air quality, two against groundwater, three against noise and vibration, and two against surface water.

The ten findings raised during this period remain open, including 2 non-conformances and 8 opportunities for improvement.

### Previous reporting periods

Two of 10 non-conformances from the previous reporting periods remain open.

Three of 13 opportunities for improvement from the previous reporting periods remain open.



Photo 7 – Gantries lifting TBM cutter head – East Zone (Source: WGTP MTIA, 29 August 2019)

### 3.4.3 West Zone

Construction works are continuing with retaining/noise walls, bridge widenings, freeway pavement widening, drainage and utility works. There has been a big focus on the utility power relocations, including installation and transfer of conductors for the Ausnet 220 kV and relocation of the Powercor and Jemena 66 kV infrastructure. The D&C Subcontractor has begun works in the M80 Interchange area with bridge widening works and freeway drainage. Williamstown Bridge widening works have been completed and good progress has been made on the bridge substructures at Newport Rail, Millers Road and Kororoit Creek.

Sixteen findings were raised during WEMP audits of the West Zone in this reporting period.

One non-conformance was raised during WEMP audits of the West Zone which related to the D&C Subcontractor's pre-clearance procedure not being followed for clearing work.

Nine areas for improvement were raised, one against inconsistencies between a WEMP and associated construction procedure, one against a CHMP requirement, one against an incomplete permit to dewater, one against incomplete spoil register records, two against stockpile locations not being shown on the WEMP and lack of signposting, one against insufficient analysis of noise monitoring data and one against insufficient dust monitoring equipment.

Six observations were raised. Four of these related to environmental management issues and one each for contaminated soil and spoil and surface water.

Apart from one opportunity for improvement, all ten non-conformances and opportunities for improvement raised during the reporting period remain open. The opportunity for improvement that has been closed was due to the finding being escalated to CEMP level as it was considered a Project-wide issue and not isolated to the West Zone.

### **Previous reporting periods**

Five of six non-conformances from the previous reporting periods remain open.

Eight of 16 areas for improvement from the previous reporting periods remain open.



## 4 AUDIT CONCLUSIONS

### 4.1 Environmental Management Strategy

Project Co is currently meeting its obligations under the Strategy. No non-conformances were raised during the reporting period. Eight findings were raised overall and these related to the corporate and Project-specific management systems, and processes and documents that Project Co rely on to assist them in implementing the Strategy. The findings consisted of:

- Four opportunities for improvement
- Four observations.

### 4.2 Environmental Performance Requirements

During the last six-month reporting period the IREA formally audited 54 EPRs. The majority of EPRs audited during the reporting period were deemed compliant, the findings raised consisted of:

- Five non-conformances, these related to noise and vibration and air quality.
- 18 opportunities for improvement, a number of these related to management documentation requiring further development, or lack of evidence that documents have been fully implemented.
- Eight observations were also raised.

Four of the five non-conformances raised during the reporting period remain open, as well as one non-conformance from the previous reporting period, i.e. there is a total of five non-conformances open at the end of this reporting period. Of the five open non-conformances, four relate to construction noise and vibration. It is the IREA's opinion that these issues need to be addressed prior to the start of tunnelling.

### 4.3 Construction Environment Management Plan

The last six-month reporting period focused on auditing a range of CEMP elements and subplans. A number of these plans were out of date at the beginning of March 2019 which resulted in multiple audit findings being raised against them. Subsequent improvements were made to a number of plans resulting in these being approved by the IREA in August 2019. However, some key plans remaining unapproved with significant comments outstanding as of the end of August.

The CEMP audit findings for the May 2019 quarterly audit are summarised below:

- Two non-conformances were raised against the CEMP, one in relation to not entering environmentally relevant community complaints into the appropriate system within a specified timeframe, and one relating to delays in updating the CEMP and subplans
- Eleven opportunities for improvement, this included four against the CEMP and seven against the CEMP subplans. These generally related to incident reporting, internal CEMP auditing; and inconsistencies between commitments made in management plan documentation and actual practices.

The CEMP audit findings for the August 2019 quarterly audit are summarised below:

- One non-conformance was raised against the CEMP as the D&C Subcontractor was unable to demonstrate that an internal management review of their Environmental Management System had been undertaken.
- Seven opportunities for improvement were raised. This included four against the CEMP and three against the CEMP subplans. The findings against the CEMP related system management processes such as risk and opportunity management and incident management (classification). The findings raised against the CEMP sub-plans related to reporting on fauna relocations, monthly sustainability reporting and implementation of reviews under the business consultation framework.

The IREA will continue to work with Project Co / the D&C Subcontractor to close out any outstanding non-conformances and opportunities for improvement, which largely relate to updating the CEMP and subplans.

Whilst Project Co / the D&C Subcontractor have made an increased effort to close previous findings over the last six-month reporting period, progress is still slow.

#### 4.4 Worksite Environment Management Plans

During the reporting period six WEMP audits were conducted. A total of 48 findings were raised in this reporting period. These consisted of:

- Three non-conformances. These were a result of the wrong WEMP being used at a construction work front (Tunnel Zone), vegetation clearance being undertaken without following the necessary procedure for preclearance by a qualified ecologist (West Zone) and an incident report not being raised in the D&C Subcontractor's systems within the appropriate timeframe (West Zone).
- 22 opportunities for improvement. The majority of these related to administrative findings such as WEMPs not reflecting onsite environmental controls.
- 23 observations.

The D&C Subcontractor is yet to demonstrate a consistent system of reporting, communicating and closing out WEMP audit findings to the IREA across all zones. As with other audits, close out of WEMP audit findings is slow. In total there are 38 WEMP audit findings which remain open since construction began in March 2018, comprising ten non-conformances and 28 opportunities for improvement.

#### 4.5 Overall Conclusion

The majority of audit findings made in the reporting period relate to procedural matters. Some of these procedural findings relate to high risk areas i.e. noise and vibration and groundwater. A small number of findings relate to on-site environmental impacts or risks. It's noted that a number of the audit findings from previous reporting periods remain open and this is of concern.

The findings arising from the reporting period by the IREA has not identified any immediate significant or material risks to the environment.



Photo 8 – Attachment of TBM cutter head to TBM body – Tunnel Zone (Source: WGTP MTIA, 29 August 2019)

**APPENDIX A- EPR AUDITING STATUS**

**Phase:** D = Design; PC = Pre-construction; C = Construction; PC = Pre-operation; O = Operation

**Type of review and surveillance:** MP = Management Plan; DP = Design Package; CR = Construction Documentation Review; CS = Construction Surveillance

ENVIRONMENTAL PERFORMANCE REQUIREMENTS	REVIEW & SURVEILLANCE				AUDIT				PHASE	PROJECT AND AUDIT STATUS (MARCH 2018 TO MAY 2019)	RESPONSIBLE PARTY
	MP	DR	CR	CS	May -19	Aug -19	Nov -19	Feb -20			
ENVIRONMENTAL MANAGEMENT											
EMP1 Environmental Management Strategy	X						X		All	The IREA audited this EPR in August 2018 and it was deemed compliant.	Project Co (WGTP MTIA will publish the Strategy)
EMP2 Environmental Management Plans	X		X	X	X				All	An opportunity for improvement was raised in May 2019 (May-19_EPR_01) and remains open.	D&C / OpCo
EMP3 Environmental Compliance							X		PC, C, O	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C / OpCo (WGTP MTIA will forward audit reports to Minister for Planning and will public audit reports only)
EMP4 Complaints Management System	X				X				PC, C	An opportunity for improvement was raised in August 2018 (Aug-18_EPR_04) and remains open. An opportunity for improvement was raised in May 2019 (May-19_EPR_02) and remains open.	D&C
AIR QUALITY											
AQP1 Tunnel Ventilation System Design		X				X			D, C	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
AQP2 Zero Portal Emissions		X				X			D, O	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C / OpCo
AQP3 In Tunnel Air Quality		X				X			D, O	An observation was raised in August 2019 (Aug-19_EPR_05).	D&C / OpCo
AQP4 Ambient Air Quality Monitoring	X			X	X				C, O	A non-conformance was raised in May 2019 (May-19_EPR_03) and remains open.	D&C / OpCo
AQP5 In Tunnel Air Quality and Ventilation Structure Emissions Compliance									O	N/A - operational EPR	OpCo
AQP6 Air Quality During Construction	X		X	X	X				C	A non-conformance, observation and opportunity for improvement were raised as separate findings in May 2019 (May-19_EPR_04, May-19_EPR_05, May-19_EPR_06). As agreed on 1 February 2019 observations are to be closed once reported on initially. The non-conformance was closed as part of the August 2019 audit. The opportunity for improvement remains open.	D&C
AQP7 Roadside Air Quality Mitigation Strategy									O	N/A - operational EPR	WGTP MTIA (OpCo)
BUSINESS											
BP1 Damage or Impacts on Third Party Property and Infrastructure	X	X	X	X				X	D, C	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C
BP2 Access and Amenity for Business and Commercial Facilities		X	X	X				X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
BP3 Screening		X	X	X				X	C	There are no open findings against this EPR.	D&C
BP4 Impacts on Operation of Community, Private Recreation and Council Facilities and Services		X	X	X				X	All	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C / OpCo
BP5 Business Involvement Plan	X		X	X		X			PC, C	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_07) and remains open. An opportunity for improvement was raised in August 2019 (Aug-19_EPR_26).	D&C
BP6 Utility Assets		X	X	X				X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
BP7 Gas Utilities		X	X	X		X			D, C	An opportunity for improvement was raised in November 2018 (Nov-18_EPR_09) – this has been closed as part of the August 2019 audit. The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C



ENVIRONMENTAL PERFORMANCE REQUIREMENTS	REVIEW & SURVEILLANCE				AUDIT				PHASE	PROJECT AND AUDIT STATUS (MARCH 2018 TO MAY 2019)	RESPONSIBLE PARTY
	MP	DR	CR	CS	May-19	Aug-19	Nov-19	Feb-20			
BP8 Business Disruption		X	X	X				X	D, C	There are no open findings against this EPR.	D&C
BP9 Business Acquisition Process		X	X	X				X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	WGTP MTIA
CULTURAL HERITAGE											
CHP1 Cultural Heritage Management Plan	X	X	X	X	X				D, C	An opportunity for improvement was raised in May 2019 (May-19_EPR_07) and remains open.	D&C
CHP2 Design and Construction to Minimise Impacts on Heritage		X	X	X			X		D, PC, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
CHP3 Archaeological Management Plan	X		X	X	X				PC, C	An observation was raised in May 2019 (May-19_EPR_08). As agreed on 1 February 2019 observations are to be closed once reported on initially.	D&C
CHP4 Monitoring of Heritage Sites and Places		X	X	X			X		C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
CHP5 Archival Photographic Records		X				X			PC	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_01) and remains open. The IREA audited this EPR in August 2019 and it was deemed complaint.	D&C
CHP6 Port Phillip Monument		X				X			D, C	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_02) – this has been closed as part of the August 2019 audit. The IREA audited this EPR in August 2019 and it was deemed complaint.	D&C
CHP7 Heritage Interpretation Strategy	X	X				X			PC, C	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_03) – this has been closed as part of the August 2019 audit. An observation was raised in August 2019 (Aug-19_EPR_20).	D&C
CHP8 Shipwrecks	X	X	X	X			X		PC, C	There are no open findings against this EPR.	D&C
CHP9 Maribyrnong River Front (Footscray)		X	X	X		X			D	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_05) – this has been closed as part of the August 2019 audit. The IREA audited this EPR in August 2019 and it was deemed complaint.	D&C
CHP10 Bluestone Bridge		X					X		C	There are no open findings against this EPR.	D&C
CHP11 Rail Turntables		X	X	X			X		D	There are no open findings against this EPR.	D&C
CHP12 Flinders Street								X	C	There are no open findings against this EPR.	D&C
CONTAMINATED SOIL & SPOIL MANAGEMENT											
CSP1 Contaminated Soil Requirements	X	X	X	X	X				C	An opportunity for improvement was raised in May 2019 (May-19_EPR_10) and remains open.	D&C
CSP2 Contaminated Soil and Spoil Management	X	X	X	X	X				PC, C	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_06) and remains open. A new opportunity for improvement and an observation were raised in May 2019 (May-19_EPR_10, May-19_EPR_33). As agreed on 1 February 2019 observations are to be closed once reported on initially.	D&C
CSP3 Acid Sulphate Soil	X		X	X			X		PC, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
CSP4 Odour Management	X		X	X		X			C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
ECOLOGY											
EP1 Minimise Vegetation Removal and Disturbance		X	X	X	X				D, PC, C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C
EP2 Vegetation Protection Measures	X	X	X	X	X				PC, C	The IREA audited this EPR in May 2019 and it was deemed compliant	D&C
EP3 Reinstatement		X	X	X				X	C	There are no open findings against this EPR.	D&C

ENVIRONMENTAL PERFORMANCE REQUIREMENTS	REVIEW & SURVEILLANCE				AUDIT				PHASE	PROJECT AND AUDIT STATUS (MARCH 2018 TO MAY 2019)	RESPONSIBLE PARTY
	MP	DR	CR	CS	May -19	Aug -19	Nov -19	Feb -20			
EP4 Fauna Management Measures	X	X	X	X		X			PC, C	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_10) and remains open. An opportunity for improvement was raised in August 2019 (Aug-19_EPR_22).	D&C
EP5 Works on Waterways		X	X	X	X				D, C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C
EP6 Landscaping Plan		X					X		D, PC, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
EP7 Vegetation Offsets	X		X	X				X	C	There are no open findings against this EPR.	WGTP MTIA
GREENHOUSE GAS EMISSIONS											
GGP1 Greenhouse Gas Emissions		X	X	X		X			D	This IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
GGP2 Emissions Reduction		X	X	X		X			D, C	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_12) and remains open. An opportunity for improvement was raised in August 2019 (Aug-19_EPR_02).	D&C
GROUND MOVEMENT											
GMP1 Geotechnical Model and Assessment		X	X	X	X				PC, C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C
GMP2 Tunnel and Portal Drainage		X	X	X				X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
GMP3 Condition Surveys and Determination of Settlement Criteria for Property and Infrastructure		X	X	X	X				PC, C, O	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_14) and remains open. The IREA audited this EPR again in May 2019 and based on the scope of the EPR audited, it was deemed compliant.	D&C / OpCo
GMP4 Settlement Criteria for Utilities		X	X	X		X			PC	The IREA audited this EPR in August 2019 and it was deemed complaint.	D&C
GMP5 Ground Movement Monitoring	X	X	X	X	X				PC, C, O	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_16) and remains open. The IREA audited this EPR again in May 2019 and based on the scope of the EPR audited, it was deemed compliant.	D&C / OpCo
GMP6 Mitigation of Ground Movement Impact	X	X	X	X			X		C, O	There are no open findings against this EPR.	D&C / OpCo
GROUNDWATER											
GWP1 Groundwater Management Measures	X	X	X	X	X				PC, C, O	The IREA audited this EPR in May 2019 and an opportunity for improvement was raised (May-19_EPR_16) and remains open.	D&C / OpCo
GWP2 Protection of Groundwater Quality	X		X	X	X				C	An opportunity for improvement was raised in November 2018 (Nov-18_EPR_22) and remains open. The IREA audited this EPR in May 2019 and an observation was raised (May-19_EPR_17). As agreed on 1 February 2019 observations are to be closed once reported on initially.	D&C
GWP3 Tunnel Drainage Design and Construction Methods		X	X	X	X				D, PC, C	An opportunity for improvement was raised in November 2018 (Nov-18_EPR_23) and remains open. The IREA audited this EPR again in May 2019 and based on the scope of the EPR audited, it was deemed compliant.	D&C
GWP4 Predictive Groundwater Model		X	X	X	X				PC, C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C
GWP5 Groundwater Monitoring			X	X	X				PC, C, O	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_19) and remains open. The IREA audited this EPR in May 2019 and a new opportunity for improvement was raised (May-19_EPR_20) and remains open.	D&C / OpCo
GWP6 Interception of Groundwater	X	X	X	X	X				C	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_13) and remains open. The IREA audited this EPR again in May 2019 and based on the scope of the EPR audited, it was deemed compliant.	D&C

ENVIRONMENTAL PERFORMANCE REQUIREMENTS	REVIEW & SURVEILLANCE				AUDIT				PHASE	PROJECT AND AUDIT STATUS (MARCH 2018 TO MAY 2019)	RESPONSIBLE PARTY
	MP	DR	CR	CS	May -19	Aug -19	Nov -19	Feb -20			
GWP7 Impacts on Groundwater Users		X	X	X				X	PC, C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
LAND USE											
LPP1 Minimise Design Footprint		X				X			D	The IREA audited this EPR in August 2019 and it was deemed complaint.	D&C
LPP2 Recreation Facilities		X	X	X				X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
LPP3 Future Development Opportunities		X				X			D	The IREA audited this EPR in August 2019 and it was deemed complaint.	D&C
LPP4 Pedestrian and Bicycle Connections		X				X			D	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
LPP5 Public Land		X	X	X				X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
LANDSCAPE AND VISUAL											
LVP1 Urban Design Approach		X	X	X				X	D, C	There are no open findings against this EPR.	D&C
LVP2 Reinstatement Following Temporary Works		X					X		D, C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
LVP3 Light Spillage	X	X	X	X			X		D, C	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C
LVP4 Vegetation Screening		X						X	C	There are no open findings against this EPR.	D&C
LVP5 Design Review								X	D	The IREA audited this EPR in February 2019 and it was deemed compliant.	WGTP MTIA (on receipt of relevant design documentation in accordance with the design review process)
NOISE AND VIBRATION											
NVP1 Traffic Noise Limits		X	X	X		X			D, C	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
NVP2 Traffic Noise Reduction of Open Space		X	X	X		X			D, C	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
NVP3 Maintenance of Noise Mitigation Measures									O	N/A - operational EPR	OpCo (for the maintenance of noise mitigation measures in accordance with Sections 18.4 and 18.5 of Part B, otherwise WGTP MTIA)
NVP4 Traffic Noise Reduction of Millers Road North of West Gate Freeway									PO	N/A - operational EPR	OpCo
NVP5 Construction of Noise Barriers		X	X	X		X			C	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
NVP6 Traffic Noise Monitoring		X							PO, O	Based on Project status this is currently not relevant	OpCo (for the O&M phase in accordance with Sections 18.4 and 18.5 of Part B, otherwise WGTP MTIA)
NVP7 Construction Noise, Vibration Management, and Monitoring	X		X	X	X				PC, C	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_24). The finding was reviewed in the May 2019 audit, escalated to a non-conformance and remains open.	D&C
NVP8 Construction Noise Targets			X	X	X				C	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_25). The finding was reviewed in the May 2019 audit, escalated to a non-conformance and remains open. Two areas for improvement were raised as separate findings in May 2019 (May-19_EPR_24, May-19_EPR_25) and remain open.	D&C

ENVIRONMENTAL PERFORMANCE REQUIREMENTS	REVIEW & SURVEILLANCE				AUDIT				PHASE	PROJECT AND AUDIT STATUS (MARCH 2018 TO MAY 2019)	RESPONSIBLE PARTY
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NVP9 Blasting Trials and Assessment							X		C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
NVP10 Construction Vibration Targets (Amenity)			X	X		X			C	The IREA audited this EPR in February 2019 and a non-conformance was raised (Feb-19_EPR_22) and remains open. A opportunity for improvement was raised in August 2019 (Aug-19_EPR_13).	D&C
NVP11 Construction Vibration Targets (Structures)			X	X		X			C	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
NVP12 Ground-borne (Internal) Noise Targets							X		C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
NVP13 Utility Asset Protection		X	X	X		X			PC, C	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
NVP14 Tunnel Ventilation System Noise Design						X			D, O	An opportunity for improvement was raised in August 2019 (Aug-19_EPR_06).	D&C / OpCo
NVP15 Tunnel Ventilation System Noise Monitoring									O	N/A - operational EPR	OpCo
NVP16 Amenity Blast Vibration							X		C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
NVP17 Amenity Blast Overpressure Implement						X			C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
NVP18 Construction Noise Management	X		X	X	X				C	The IREA audited this EPR in August 2018 and an opportunity for improvement was raised (Aug-18_EPR_26). The finding was reviewed in the May 2019 audit, escalated to a non-conformance, and remains open.	D&C
NVP19 Traffic Noise of Hyde Street, South of Francis Street							X		C	The IREA audited this EPR in February 2019 and it was deemed compliant.	WGTP MTIA
SOCIAL											
SP 1 Urban Design Principles and Vision		X					X		D	There are no open findings against this EPR.	D&C
SP2 Communications and Community Engagement Plan (CCEP)	X		X	X	X				PC, C, O	The IREA audited this EPR in May 2019 and two areas for improvement were raised (May-19_EPR_27, May-19_EPR_28), and remain open.	D&C / OpCo
SP3 Community Liaison Group Participation					X				C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C / WGTP MTIA
SP4 Social and Local Procurement	X							X	PC, C	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C
SP5 Community Involvement and Participation Plan (CIPP)	X						X		PC, C	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_15) and remains open.	WGTP MTIA
SURFACE WATER											
SWP1 Design of Discharges and Runoff		X				X			D	An opportunity for improvement was raised in February 2019 (Feb-19_EPR_30) and remains open. An observation was raised in August 2019 (Aug-19_EPR_23).	D&C
SWP2 Water Sensitive Road Design		X					X		D	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
SWP3 Tunnel Waste Water		X	X	X				X	PC	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
SWP4 Water Quality Monitoring	X		X	X				X	PC	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C
SWP5 Spill Containment Design		X					X		D	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
SWP6 Management of Chemicals, Fuels, and Hazardous Materials			X	X			X		C	There are no open findings against this EPR.	D&C
SWP7 Surface Water Management During Construction	X		X	X	X				C	The IREA audited this EPR in May 2019 and an opportunity for improvement was raised (May-19_EPR_30) and remains open.	D&C

ENVIRONMENTAL PERFORMANCE REQUIREMENTS	REVIEW & SURVEILLANCE				AUDIT				PHASE	PROJECT AND AUDIT STATUS (MARCH 2018 TO MAY 2019)	RESPONSIBLE PARTY
	MP	DR	CR	CS	May -19	Aug -19	Nov -19	Feb -20			
SWP8 Use of non-potable water		X	X	X				X	C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
SWP9 Bank Stability		X	X	X	X				C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C
SWP10 Waterway Modifications		X			X				D, C	The IREA audited this EPR in May 2019 and it was deemed compliant.	D&C
SWP11 Flood Levels, Flows and Velocities		X	X	X		X			D, PC, C	An observation was raised against this EPR in August 2019 (Aug-19_EPR_24).	D&C
SWP12 Floodplain Storage Capacity		X	X	X		X			D	The IREA audited this EPR in August 2019 and it was deemed compliant.	D&C
SWP13 Tunnel Portal Flood Risk		X					X		D, O	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C / OpCo
SWP14 Maintenance of Melbourne water and Other Drainage Assets		X	X	X			X		D	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
SWP15 North Yarra Main Sewer		X							D	The IREA audited this EPR in February 2019 and it was deemed compliant. This EPR has been met and will not be audited again.	D&C
TRANSPORT											
TP1 Optimise Design Performance		X					X		D	There are no open findings against this EPR.	D&C
TP2 Traffic Monitoring			X	X				X	PC, C, O	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C / OpCo
TP3 Traffic Management Plan	X		X	X			X		PC, C	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C
TP4 Public Transport		X	X	X				X	PC, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
TP5 Rail operations		X						X	D, C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
TP6 Design Standards		X						X	D, C	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C
TP7 Traffic Management Liaison Group			X	X				X	PC, C	The IREA audited this EPR in August 2018 and it was deemed compliant.	D&C
TP8 River Navigation		X	X	X			X		C	The IREA audited this EPR in February 2019 and it was deemed compliant.	D&C
TP9 Melbourne Metro Rail Authority Interface								X	C	There are no open findings against this EPR.	D&C
WASTE MANAGEMENT											
WMP1 Waste Management	X	X	X	X				X	D, C, O	The IREA audited this EPR in November 2018 and it was deemed compliant.	D&C / OpCo



**APPENDIX B - IREA SPECIALIST TEAM**

The formal audits described in this Minister's Report have been undertaken by the lead IREA Environment Auditor, Elizabeth Hurst and Assistant Environment Auditors, Camilla Freestone, Sam Withers and Darcy Wall. The Lead Auditor was supported by a team of specialists, including (but not limited to):

- IREA Construction Lead, Mike Cragg
- IREA Design Lead, Damien Kennedy
- IREA Technical Lead for Stakeholder and Community Engagement, Esther Diffey
- IREA Technical Leads for Groundwater, Sarah Sawyer
- IREA Technical Lead for Air Quality, Dr Iain Cowan
- IREA Technical Lead for Ecology, Fiona Sutton
- IREA Technical Lead for Soil and Spoil, Dr Dave Adams
- IREA Technical Lead for Noise and Vibration, Mike Dowsett
- IREA Technical Lead for Ground Movement, Stuart Oakey
- IREA Stormwater and Hydrology Lead Design Reviewer, Paul Atkinson
- IREA Technical Lead for Sustainability, Bernadette Fitzgerald.

This report has been reviewed by the IREA Representative, Simon O'Hana.

**APPENDIX C - AUDIT LIMITATIONS**

This report was prepared in accordance with generally accepted consulting practice for audit services. The environmental audit requires the IREA to apply a process of “general overview and reasonable checking” of the Project documentation and Design and Construction activities (as required under the contract between the IREA and Project Co / WGTP MTIA). The audit program is risk-based, targeting those Design and Construction activities with a potential for risk to the environment or to environmental management arrangements. Accordingly, it is possible that not all environmental issues will be examined during each audit. However, the IREA maintains a structured program of audits designed to cover all aspects of the Project and to enable the formation of an opinion on whether there is conformance with the requirements of the Strategy, CEMP (and subordinate documentation), WEMPs, and the EPRs (as applicable).