Report and recommendations of the Environmental Protection Authority

Forrestfield Airport Link

Public Transport Authority

Report 1553

July 2015

Assessment on Proponent Information
Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
13/04/15	Level of assessment set	
28/04/15	Scoping guideline issued by EPA	2
05/06/15	Proponent's final Environmental Review (API) document received by EPA	5
18/06/15	EPA meeting	2
8/07/15	EPA report provided to the Minister for Environment	4
13/07/15	Publication of EPA report (3 working days after report provided to the Minister)	3 days
27/07/15	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority met its timeline objective in the completion of the assessment and provision of a report to the Minister.

Dr Paul Vogel
Chairman

8 July 2015

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Contents

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1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for Environment on the outcomes of its environmental impact assessment of the proposal by the Public Transport Authority (PTA) to extend the Perth rail network from the Bayswater Station/Midland line through to Forrestfield (Figure 1). The Minister has nominated the Public Transport Authority as the proponent responsible for the proposal.

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires that the EPA prepare a report on the outcome of its assessment of a proposal and provide this assessment report to the Minister for Environment. The report must set out:

- what the EPA considers to be the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may also include any other information, advice and recommendations in the assessment report as it thinks fit.

The aims of environmental impact assessment and the principles of environmental impact assessment considered by the EPA in its assessment of this proposal are set out in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012.*

The proposal was initially (in January 2015) determined to be a 'controlled action' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as it may have impacted on Matters of National Environmental Significance (MNES). However, on 26 June 2015 the Commonwealth Minister for the Environment's delegate reconsidered the previous decision that the proposal was a 'controlled action' based on new information made available during the EPA's assessment, and decided to revoke that decision. This means that the proposal is no longer a 'controlled action' and hence does not require assessment and approval under the EPBC Act.

The proponent has submitted an Assessment on Proponent Information (API) Environmental Review document and supporting documents (including technical studies). The document describes the proposal, outcomes of consultation, environmental studies undertaken, and the proponent's assessment of impacts on environmental factors and application of the mitigation hierarchy to manage those impacts (Appendix 4, PTA 2015).

This report provides the EPA's advice and recommendations in accordance with section 44 of the EP Act.

2. The proposal

The PTA proposes to extend the Perth rail network from the Bayswater Station/Midland line through to Forrestfield (Figure 1).

The proposal includes twin bored tunnels which are approximately five kilometres long, two stations, car parks, dive structures, cross passages, emergency egress shafts, signalling and telecommunication equipment, as well as relocation of underground services (gas and cabling) and the re-alignment of Dundas Road.

The proposal forms part of a wider project which includes development within Perth Airport, involving tunnelling under the airport land and the excavation and construction of the Central Airport Station underground. Perth Airport is situated on Commonwealth Land and is subject to environmental assessment and approval under the Commonwealth *Airports Act 1996*.

The components of the overall project, and the associated environmental impacts, on Commonwealth Land are not subject to assessment by the EPA and are therefore not discussed further in this report. Further information on the project is provided in Section 1.2 of the proponent's Environmental Review Document (Appendix 4, PTA 2015).

The main characteristics of the proposal are summarised in Tables 1 and 2 below. A detailed description of the proposal is provided in Section 2 of the proponent's API Environmental Review Document (Appendix 4, PTA 2015).

Table 1: Summary of key proposal characteristics

Proposal Title	Forrestfield Airport Link (FAL)
Short Description	The Proposal is to extend the Perth rail network from the Bayswater Station/Midland line (Figure 2) through to Forrestfield (Figure 3). The proposal includes twin bored tunnels which are approximately five kilometres long, two stations (Airport West and Forrestfield), car park, dive structures, cross passages, emergency egress shafts, signalling and telecommunication equipment as well as relocation of underground services (gas and cabling) and the re-alignment of Dundas Road.

Table 2: Physical and Operational Elements

Column 1	Column 2	Column 3
Element	**Location**	**Authorised Extent**
• Clearing and disturbance. • Excavation and tunneling. • Dewatering and recharge activities.	Located within the Bayswater and Forrestfield Development Envelopes as shown in Figures 1, 2 and 3.	• Clearing up to 13.23 ha of native vegetation, which includes: - 1.6 ha of Threatened Ecological Community Swan Coastal Plain 20a; and - 25 *Conospermum undulatum* plants, within the 65 ha Development Envelopes (Bayswater and Forrestfield combined). • Surface disturbance of 46.3 ha within the 65 ha Development Envelopes (Bayswater and Forrestfield combined).

The potential impacts of the proposal on the environment identified by the proponent and their proposed management are summarised in Table 5-6 of the Environmental Review (Appendix 4, PTA 2015).

In assessing this proposal, the EPA notes that in selecting the final route the proponent has sought to avoid and minimise environmental impacts associated with the proposal by undertaking a detailed analysis of three different proposed routes with different methods of construction being:

- Option 1 - Elevated option which involved a combination of elevated and at-grade rail running to the north of Tonkin Highway, entering a subterranean section on Brearley Avenue and then into Airport land. A new bridge would be required to cross the Swan River;
- Option 2 - Partially subterranean option which involved a combination of at-grade and subterranean rail running to the south of Tonkin Highway, with a crossing under Tonkin Highway and then into Airport land. The subterranean sections would be excavated from the surface. A new bridge would be required to cross the Swan River; and

- Option 3 - Entirely subterranean option which involves tunneling. This was the selected option.

Option 3 was chosen by the proponent to minimise the potential environmental, social and economic impacts. The proponent considers that, from an environmental perspective, this option minimised impacts to known Threatened Ecological Communities (TEC), Declared Rare Flora (DRF) and potential impacts to the Swan River, where possible (Section 2.5, Appendix 4, PTA 2015). This option also significantly reduced the potential for impacts associated with amenity, particularly from noise and vibration.

The concept design for this option was also modified during the final stages of the design process, in particular at the Forrestfield area, to further minimise significant environmental and heritage impacts to:

- Poison Gully Creek bushland, which contains threatened flora (12 *Conospermum undulatum* plants), an Endangered TEC, Black Cockatoo habitat, a significant site to Aboriginal people and a Bush Forever site; and

- 2.95 ha of a TEC located adjacent to the station.

During the preparation of the Environmental Review, the proponent has undertaken consultation with government agencies and key stakeholders. The agencies and stakeholders consulted, the issues raised and proponent's response are detailed in Table 3.1 of the proponent's Environmental Review document (Appendix 4, PTA 2015).

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders on the proposed development.

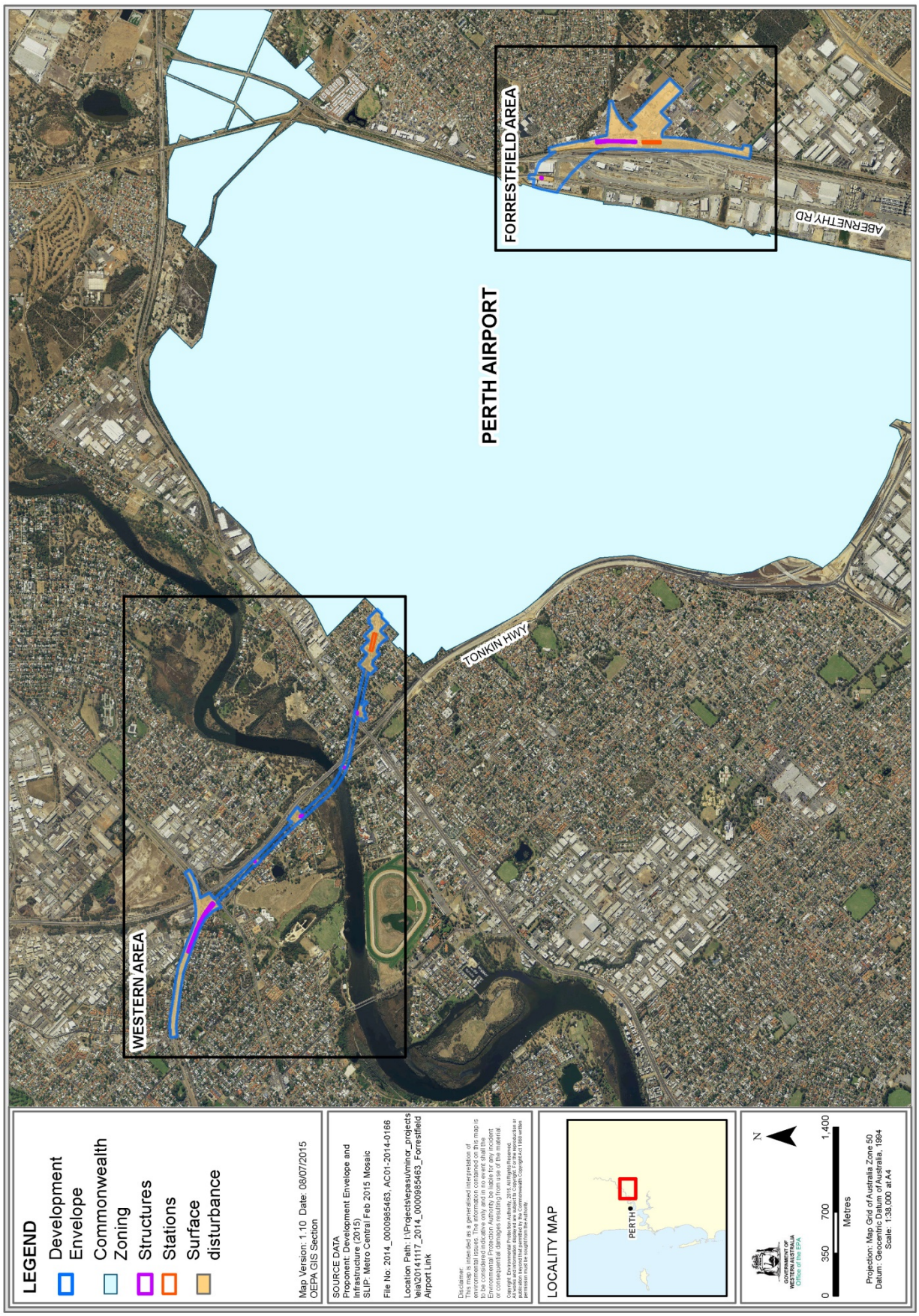

Figure 1: Proposal location, FAL Development Envelopes

Figure 2: Bayswater Development Envelope

Figure 3: Forrestfield Development Envelope

3. Key environmental factors

The EPA recommends that the following key environmental factors require evaluation in the EPA's Report and Recommendations:

1. **Flora and vegetation** – direct impacts from clearing of flora and vegetation within the proposal development envelopes, and potential indirect impacts from dewatering, recharge activities, changes to surface water flows, weeds, fire and increased public access of the area; and

2. **Offsets (integrating factor)** – to counterbalance the significant residual impacts to flora and vegetation.

The EPA's assessment of the proposal's impacts on the key environmental factors is provided in Table 3. This table outlines the EPA's conclusions as to whether or not the proposal can be managed to meet the EPA's objective for a particular factor and, if so, the recommended conditions and procedures that should apply if the proposal is implemented.

In preparing this report and recommendations, the EPA has had regard for the object and principles contained in s4A of the EP Act.

At level of assessment stage, the EPA also identified Hydrological Processes and Inland Waters Environmental Quality as preliminary key environmental factors based on the information available at the time. However, through the course of the assessment, the EPA has received more information about the predicted impacts, proposed management and process for continuing to work with the departments of Water and Environment Regulation on the development of detailed management plans for dewatering, acid sulfate soils and contaminated sites.

The EPA has therefore determined that the potential impacts of the proposal regarding these factors are unlikely to have a significant effect on the environment and can be adequately managed to meet the EPA's objectives through the proponent's commitments, proposed mitigation measures and other statutory processes. These factors are discussed further in Appendix 2.

Other environmental factors which the EPA determined not to be key environmental factors are discussed in the proponent's Environmental Review (API) document (Appendix 4, PTA 2015). The EPA considers that impacts to these factors do not require management under Part IV of the EP Act.

Table 3: Assessment of Key Environmental Factors

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
3.1 Flora and Vegetation *To maintain representation, diversity, viability and ecological function at the species, population and community level.*				
<u>Context/Key Survey Findings</u> • 24.86 ha of remnant vegetation in good or better condition within the development envelope. • Four Threatened Ecological Communities (TEC) and one Priority Ecological Community (PEC) (including two listed under the EPBC Act) occur in the vicinity of the proposal: - Swan Coastal Plain (SCP)3c – Critically Endangered (EPBC Act - Endangered); - SCP20a – Endangered; - SCP 20a/21c – Endangered; - SCP20a/20b – Endangered; and - Subtropical and Temperate	Clearing of Native vegetation and flora. Dewatering and recharge activities.	<u>Avoid and Minimise</u> • The proposal has been designed to avoid and minimise impacts to: - 11.63 ha of vegetation in good or better condition; - TEC SCP3c; - Floristic Community Type (FCT) 20a/21c; and - FCT 20a/20b. - TEC Subtropical and Temperate Coastal Saltmarsh; • Use of tunnel boring construction method to avoid and minimise impacts to:	The following condition is recommended: Condition 6 requiring the proponent to prepare and implement a Flora and Vegetation Monitoring and Management Plan. The management plan requires the proponent to undertake groundwater baseline surveys between the Forrestfield Development Envelope, Poison Gully and Lot 12 Ibis Place, including a report on the extent of perching at Poison Gully and Lot 12 Ibis Place. The	Having particular regard to the: • mitigation measures proposed by the proponent to avoid and minimise environmental impacts to Flora and Vegetation; • the significant residual impacts being the direct loss of 1.6 ha of TEC FCT SCP20a, noting that this area is isolated and small in size; and • the significant residual impacts to flora being the loss of 25 *Conospermum undulatum* plants, noting that this loss constitutes

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
Coastal Saltmarsh PEC (EPBC Act - Vulnerable). • One species of flora listed under the *Wildlife Conservation Act 1950* and the EPBC Act occur in the vicinity of the proposal: - 37 *Conospermum undulatum* (Vulnerable). • no *Phytophthora* Dieback infestations. • Bush Forever Site 45 occurs within and adjacent to the Forrestfield development envelope. <u>Impacts without mitigation</u> • Clearing of: - 24.86 ha of remnant vegetation in good or better condition; - SCP3c; - 4.55 ha of SCP 20a; - SCP 20a/21c; - SCP20a/20b;		- 2.9 ha of SCP20a - 12 *Conospermum undulatum* plants (DRF); and - Bush Forever Site 45. <u>Management of indirect Impacts</u> • Preparation and implementation of a Construction Environmental Management Plan (CEMP). Key actions include: - interface treatments including fencing and setbacks and management of access; - significant vegetation and flora to be retained will be clearly marked on all construction plans as 'no go zones', flagging of plants, fencing and signage;	management plan also requires the development of trigger and contingency actions and monitoring to ensure there are no direct or indirect impacts to flora and vegetation outside of the development envelope as a result of the implementation of the proposal. The EPA also notes that the proponent will also require a Licence to take rare flora under the *Wildlife Conservation Act 1950* for clearing of *Conospermum undulatum*.	approximately 0.2% of the remaining populations, comprising approximately 10,500 plants, the EPA considers that the proposal can be managed to meet the EPA's objective for Flora and Vegetation provided that the following conditions are implemented: • a Flora and Vegetation Monitoring and Management Plan including baseline groundwater surveys; and • an offset strategy to counterbalance the significant residual impact as a result of the direct loss of 1.6 hectares of TEC FCT SCP20a and 25 *Conospermum undulatum* plants.

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
- Subtropical and Temperate Coastal Saltmarsh PEC; and - 37 of *Conospermum undulatum*. • Groundwater table drawdown affecting significant vegetation and flora.		- surface water and drainage controls to ensure no contaminated run off (sediment, oil etc.); - hygiene measures during construction; - minimisation of groundwater drawdown through methods such as re-injection of abstracted groundwater, use-of diaphragm walls for deeper excavations. • The proponent has committed the following to manage impacts during operations: - interface treatments including permanent fencing; - management of access; and - management of surface water from the car park		

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
		at Forrestfield Station. <u>Residual Impact and Offset</u> • An offset would be provided for significant residual impacts to the following: - 1.60 ha of TEC SCP 20a; and - 25 *Conospermum undulatum* plants (DRF). This is further discussed below in section 3.4.		
3.4 Offsets (Integrating Factor) *To counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.*				
<u>Context</u> • *WA Environmental Offsets Guidelines* (Government of WA 2014). • *Environmental Protection Bulletin No.1 – Environmental Offsets* (EPA 2014).	Clearing of Native vegetation and flora.	The proponent has committed to prepare and submit a Land Acquisition, Rehabilitation and Management Plan within 12 to 24 months of the approval which shall identify appropriate offsets for the impacts to 1.6 ha of TEC	The following condition is recommended: Condition 7 requiring the proponent to prepare and submit an offsets strategy within 12 months of publication of the Ministerial Statement.	The EPA considers that the proposal can be managed to meet the EPA's objective for Offsets provided that a condition is implemented to counterbalance the significant residual impact as a result of the direct loss of 1.6 ha of TEC FCT

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
<u>Impacts</u> • There is potential for significant residual impacts to flora and vegetation through the direct loss of: - 1.6 ha of TEC (FCT SCP20a); and - 25 *Conospermum undulatum* plants (DRF).		SCP 20a and 25 of *Conospermum undulatum*. The Commonwealth Offset calculator is to be used as a starting point for offset determinations.	As part of the offset strategy the proponent is required to identify and undertake an offset to counterbalance the significant residual impacts to the TEC FCT20a and 25 *Conospemum undulatum* plants. The offsets strategy shall be prepared to the satisfaction of the CEO and implemented by the proponent.	SCP20a and 25 *Conospermum undulatum* plants.

4. Conclusion and recommended conditions

The EPA has concluded that the proposal can be managed to meet the EPA's objectives and recommends that the proposal may be implemented. The EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by the Public Transport Authority to develop and operate the Forrestfield Airport Link is approved for implementation (Appendix 3).

Matters addressed in the conditions include the following:

- the requirement for preparation and implementation of a Flora and Vegetation Monitoring and Management Plan to ensure there are no adverse direct or indirect impacts to Threatened Ecological Communities (TECs) outside of the Forrestfield Development Envelope, at Poison Gully Creek and Lot 12 Ibis Place from the temporary dewatering and recharge activities; and

- the requirement for the preparation and implementation of an offset strategy to counterbalance the significant residual impact to flora and vegetation (direct loss of 1.6 ha of TEC FCT SCP20a and 25 *Conospermum undulatum* plants) within the Forrestfield Development Envelope.

5. Other advice

Beneficial reuse of material excavated during construction

The EPA understands that the proponent is finalising a number of studies and investigations with respect to the likely quantity and quality materials to be generated from the tunnelling and excavation. At this stage it is understood that approximately 770,000 cubic metres of material would be excavated for the entire project.

Based on work undertaken to date, the proponent considers that there are likely to be significant quantities of material available for reuse provided that there is effective separation, screening, drying and treatment of the acid generation capacity of the material. Management Plans to treat the material for acid generating capacity would require further consultation with the Department of Environment Regulation.

The EPA supports the continuation of this further work by the Public Transport Authority, including the further engagement with other infrastructure proponents in order to maximise the reuse of the material generated by the proposal and minimise waste.

6. Recommendations

That the Minister for Environment notes:

1. that the proposal being assessed is for the extension of the Perth rail network from the Bayswater Station/Midland line through to Forrestfield;
2. the key environmental factors identified by the EPA in the course of its assessment set out in Section 3;
3. the EPA has concluded that the proposal may be implemented to meet the EPA's objectives, provided the implementation of the proposal is carried out in accordance with the recommended conditions and procedures set out in Appendix 3 and summarised in Section 5; and
4. the EPA's other advice presented in Section 6 in relation to the potential for beneficial reuse of the material excavated during construction.

Appendix 1

References

Environmental Protection Authority (EPA) Revised 2014. *Environmental Protection Bulletin No.1 – Environmental Offsets.* Perth, Western Australia, August 2014.

Government of Western Australia 2011. *WA Environmental Offsets Policy.* Perth, Western Australia, September 2011.

Government of Western Australia 2014. *WA Environmental Offsets Guidelines.* Perth, Western Australia, August 2014.

Public Transport Authority (Strategen Environmental Consultants), *Forrestfield-Airport Link, Assessment on Proponent Information Environmental Review,* June 2015, (PTA, 2015)

Appendix 2

Other environmental factors identified as preliminary key environmental factors not requiring detailed assessment

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proponent's proposed Mechanism for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
Hydrological Processes *To maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.*				
<u>Context</u> Surface water: • The key surface water features within the project area and its immediate surrounds are: - Poison Gully Creek in High Wycombe; - the Bayswater Main Drain; - the Swan River; and - a resource enhancement wetland (Lot 12 Ibis Place). Groundwater: • All materials overlying the Osborne Formation are considered to be part of the Superficial Aquifer. <u>Key Survey Findings</u> • Groundwater drawdown at dive structures is manageable	Dewatering and recharge activites	<u>Avoidance</u> • The proposal has been designed to avoid direct impacts to: - Poison Gully Creek east of Dundas Road; - the Bayswater Main Drain; and - The Swan River. <u>Management</u> • Preparation and implementation of a CEMP, key actions include: - management of surface water to ensure contaminated run off from the construction site does not enter wetland(s); - fencing around the	The EPA notes that the proposal will be subject to licensing requirements under the *Rights in Water Irrigation Act 1914* which is administered by the Department of Water. These include a: - 5C licence to take water; - 26D licence to construct or alter wells; - Dewatering permit; and - A Bed and Banks Permit. As part of the regulatory process the proponent will prepare A dewatering system	Having particular regard to: - the measures proposed by the proponent to avoid and minimise environmental impacts to surface water flows and groundwater; and - that there are other regulatory processes that can manage the potential impacts from dewatering activities, - The EPA considers that the proposal can be managed to meet the EPA's objective for Hydrological Processes, noting that, there are other regulatory processes that can manage the potential impacts from dewatering. Therefore, the EPA considers it not to be a

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proponent's proposed Mechanism for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
through groundwater recharge. • Dewatering recharge is unlikely to be required at Airport West Station. • The drawdown extent is limited in depth and area. • The consequence of dewatering is highly localised and limited. • The drawdown is within range of natural seasonal variation. • A perched groundwater table has been identified in Forrestfield, however requires further investigation. <u>Impacts (without mitigation)</u> • Alterations to surface water flows, causing flooding, sedimentation, ponding, diversions, erosion and/or reduction in surface water availability downstream. • Groundwater flow may be impeded by underground		wetland to prevent accidental clearing during construction; - signage along fencing to prevent unauthorised access; - hygiene measures to prevent the spread of any weeds or disease; - dust suppression; - surface water quality and level monitoring; - auditing and reporting; - minimisation of groundwater drawdown as far as reasonably practicable through methods such as re-injection of abstracted groundwater, use-of diaphragm wall, use of wet working techniques (as applicable), and with effective groundwater	and Operational Strategy. - Acid Sulfate Soil and Dewatering Management Plan.	key environmental factor.

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proponent's proposed Mechanism for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
structures. • Risk of over abstraction of the Superficial Aquifer. • Long term groundwater flow may be obstructed by permanent structures. • Drawdown of the groundwater table may affect significant vegetation, this is addressed in Section 3.1 Flora and Vegetation.		level monitoring via a network of bores; and - minimisation of groundwater drawdown at Poison Gully Creek through positioning of recharge wells. • Detailed design of the dewatering system and preparation and implementation of an Operating Strategy in accordance with *Operational Policy 5.08* (DoW, 2011) subject to Department of Water (DoW) approval by the appointed Construction Contractor.		

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proponent's proposed Mechanism for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
Inland Waters Environmental Quality *To maintain the quality of groundwater and surface water, sediment and biota so that the environmental values, both ecological and social, are protected.*				
<u>Context</u> Surface water: • The key surface water features within the project area and its immediate surrounds are: - Poison Gully Creek in High Wycombe; - the Bayswater Main Drain; and - the Swan River. Groundwater: • The key aquifers within the project area are: - West zone: • Superficial aquifier • Osborne aquitard - East zone: • Perched aquifer	Dewatering	<u>Minimisation</u> • Use of tunnel boring construction method resulting in minimisation of dewatering and disturbance of Acid Sulfate Soils (ASS). • Use of diaphragm walls and reinjection of abstracted groundwater minimises groundwater drawdown. <u>Management</u> • Preparation and implementation of a CEMP (see Hydrological Processes above); • Characterisation of potential sources of contamination, and	The EPA notes that the proponent has agreed to a process with the DER to manage any contaminated sites and ASS. Contaminated related matters will be regulated by the CSA during construction. Matters relating to ASS will be regulated by the DER As part of this process the proponent has committed to: • Prepare an Acid Sulfate Soil and Dewatering Management Plan	Having particular regard to: - the measures proposed by the proponent to avoid and minimise environmental impacts to surface water and groundwater quality; - the proponent commitments to prepare an operational strategy and ASSDMP, CEMP and Spoil and Contamination Management Plan; the EPA considers that the proposal can be managed to meet the EPA's objective for Inland Waters Environmental Quality, noting that, there are other regulatory processes that can manage the potential

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proponent's proposed Mechanism for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
• Superficial aquifier • Mirrabooka aquifer • Osborne aquitard <u>Key Survey Findings</u> • Groundwater is fresh to slightly brackish, generally neutral in pH, with some elevated nutrients at Forrestfield and elevated levels of iron at Bayswater. • ASS occur within the tunnel alignment. • Contaminants are limited. • The drawdown extent is limited in depth and area. • A perched groundwater table had been identified in Forrestfield. <u>Impacts (without mitigation)</u> Surface Water: • Contamination of surface water via contaminated runoff or		preparation and implementation of a Spoil and Contamination Management Plan to manage any contamination. • Engagement of an accredited Contaminated Sites Auditor (CSA) • Preparation and implementation of an ASSDMP which will include: - Details of the ASS investigations undertaken; - Description of dewatering and construction activities (including dewatering volumes, D-wall construction, groundwater re-injection etc.);	ASSDMP). • Appoint a CSA. • CSA review and endorsement of the existing Golders detailed site investigation (DSI) (2015b). • Undertake additional site investigations for contamination and ASS as required based on the findings and recommendations of the DSI. • Preparation and implementation of a Spoil and Contamination Management Plan subject to approval by the CSA and DER by the lead appointed Construction	impacts. Therefore, the EPA considers it not to be a key environmental factor.

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proponent's proposed Mechanism for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
hydrocarbon/chemical spills. Groundwater: • Contamination of groundwater via hydrocarbon/chemical spills. • Groundwater drawdown reducing groundwater quality via disturbance of ASS. • Dewatering reducing groundwater quality mobilising contaminants. • Groundwater table drawdown affecting the hydrological regimes of wetlands. • Dewatering activities to impact water quality of wetlands.		- Groundwater modelling information; - Treatment for any ASS or acidic groundwater; - Treatment requirements prior to disposal of abstracted groundwater; - Monitoring and contingency measures; - Reporting requirements; - Monitoring water quality and rate of dewatering discharge; and - Groundwater quality and level monitoring (pre, during and post activities).	Contractor. • Prepare a final DSI report post construction, supported by a: - contaminated site investigation; - conceptual site Model; and - risk assessment, based on the end land use subject to approval by the CSA and DER.	

Appendix 3

Identified Decision-making Authorities
and
Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of EP Act specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

Decision-making Authority	Approval
1. Minister for Water	• 5c and 26D License under the *Rights in Water Irrigation Act* 1914, • Dewatering License • Bed and Banks Permit under the *Rights in Water Irrigation Act* 1914
2. Minister for Lands	• *Land Administration Act* 1997
3. Minister for Environment	• *Wildlife Conservation Act* 1950
4. Minister for Aboriginal Affairs	• Section 18 Notice under *Aboriginal Heritage Act* 1972
5. Department of Environment Regulation	• *Contaminated Sites Act* 2003
6. Metropolitan East Joint Development Assessment Panel	• *Planning & Development Act* 2005
7. Metropolitan Central Joint Development Assessment Panel	• *Planning & Development Act* 2005

Note: In this instance, agreement is only required with DMAs 1-4 since these DMA's are Ministers

Statement No. xxx

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
***(Environmental Protection Act 1986*)**

Forrestfield Airport Link

Proposal: The proposal is for the extension of the Perth rail network from the Bayswater Station/Midland line through to Forrestfield.

Proponent: Public Transport Authority
Australian Company Number 61 850 109 576

Proponent Address: Public Transport Centre
116 West Parade
East Perth
WA 6000

Assessment Number: 2048

Report of the Environmental Protection Authority: 1553

Pursuant to section 45 of the *Environmental Protection Act 1986* it has been agreed that the proposal described and documented in Tables 1-2 of Schedule 1 may be implemented and that the implementation of the proposal is subject to the following implementation conditions and procedures:

Words and expressions used in this Statement shall have the same respective meanings as in the Act or as provided for in Schedule 1 of this Statement.

1 Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 in Schedule 1, unless amendments to the proposal and the authorised extent of the proposal have been approved under the EP Act.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after five (5) years from the date on this Statement, and any commencement, prior to this date, must be substantial.

3-2 Any commencement of implementation of the proposal, on or before five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.

4 Compliance Reporting

4-1 The proponent shall prepare, submit and maintain a Compliance Assessment Plan to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation, whichever is sooner.

4-2 The Compliance Assessment Plan shall indicate:

(1) the frequency of compliance reporting;

(2) the approach and timing of compliance assessments;

(3) the retention of compliance assessments;

(4) the method of reporting of potential non-compliances and corrective actions taken;

(5) the table of contents of Compliance Assessment Reports; and

(6) public availability of Compliance Assessment Reports.

4-3 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.

4-6 The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then

annually from the date of submission of the first Compliance Assessment Report, or as otherwise agreed in writing by the CEO.

The Compliance Assessment Report shall:

(1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf;

(2) include a statement as to whether the proponent has complied with the conditions;

(3) identify all potential non-compliances and describe corrective and preventative actions taken;

(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and

(5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.

5 Public Availability of Data

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in condition 5-1 contains particulars of:

(1) a secret formula or process; or

(2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make these data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

6 Flora and Vegetation

6-1 The proponent shall ensure that the construction and ongoing operation of the proposal is undertaken in a manner that avoids direct or indirect impacts to flora and vegetation outside of the Forrestfield Development Envelope, as shown in Figure 1 of Schedule 1.

6-2 Prior to the commencement of dewatering activities at the Forrestfield Development Envelope, the proponent shall prepare and submit a Flora and

Vegetation Monitoring and Management Plan to the CEO. The Flora and Vegetation Monitoring and Management Plan shall:

(1) when implemented, substantiate and ensure that condition 6-1 is being met;

(2) detail baseline groundwater levels as close as practicable to Poison Gully and Lot 12 Ibis Place;

(3) attach the results of the groundwater level baseline survey. Include a report on the extent of perched groundwater levels at Poison Gully Creek and Lot 12 Ibis Place;

(4) detail the proposed frequency and timing of groundwater monitoring to be implemented during and after construction dewatering;

(5) specify management actions that will be implemented during construction and operations to ensure the management objective in 6-1 is achieved. This shall include management actions to address potential impacts from dewatering and recharge activities, surface drainage, weeds and increased public access;

(6) specify criteria (trigger criteria) that will trigger the implementation of contingency actions to prevent direct or indirect impacts to flora and vegetation outside of the Forrestfield Development Envelope; and

(7) specify management or contingency actions to be implemented in the event that the trigger criteria identified required by condition 6-2(6) have been reached.

- Note – To meet the requirements of condition 6-2, the proponent may prepare a separate plan for construction and operation.

6-3 After receiving notice in writing from the CEO that the Flora and Vegetation Monitoring and Management Plan satisfies the requirements of condition 6-2, the proponent shall:

(1) implement the management actions and monitor in accordance with the requirements of the Flora and Vegetation Monitoring and Management Plan; and

(2) continue to implement the management actions and monitor in accordance with the requirements of the Flora and Vegetation Monitoring and Management Plan until the CEO has confirmed by notice in writing that it has been demonstrated that the objective in condition 6-1 will continue to be met and therefore the implementation of the management actions and monitoring is no longer required.

6-4 In the event that the monitoring specified in the Flora and Vegetation Monitoring and Management Plan indicates that the trigger criteria specified in the Flora and Vegetation Monitoring and Management Plan have been reached the proponent shall:

(1) Report such findings to the CEO within 21 days of the trigger criteria being reached.

(2) Provide evidence to the CEO which allows for determination of the likely cause of the trigger criteria being reached and to identify any

additional contingency actions required to prevent the trigger criteria being reached in the future.

(3) If the reaching of trigger criteria is determined by the CEO to be a result of activities undertaken in implementing the proposal, immediately implement the management and/or contingency actions specified in the Flora and Vegetation Monitoring and Management Plan and continue implementation of those actions until the trigger criteria are being met, or until the CEO has confirmed by notice in writing that it has been demonstrated that the objective in condition 6-1 will continue to be met and implementation of the management and/or contingency actions is no longer required;

6-5 The proponent may review and revise the Flora and Vegetation Monitoring and Management Plan.

6-6 The proponent shall review and revise the Flora and Vegetation Monitoring and Management Plan as and when directed by the CEO.

6-7 The proponent shall implement the latest revision of the Flora and Vegetation Monitoring and Management Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 6-2.

7 Offsets

7-1 The proponent shall undertake an offset with the objective of counterbalancing the significant residual impact to 1.6 hectares of Threatened Ecological Community SCP 20a, *'Banksia attenuata* woodland over species rich dense shrublands' and 25 plants of the threatened species *Conospermum undulatum* as a result of implementation of the proposal.

7-2 Within twelve months of the publication of this Statement, the proponent shall prepare and submit an Offsets Strategy to the CEO. The Offsets Strategy shall:

(1) identify an area or areas to be protected, managed and/or rehabilitated for conservation or enhancement of the Threatened Ecological Community and threatened species values identified in condition 7-1;

(2) complete and include the WA Offsets Template, as described in the WA Environmental Offsets Guidelines 2014, as well as the Commonwealth's Offset Assessment Guide, to demonstrate how the proposed offset counterbalances the significant residual impact;

(3) identify the environmental attributes of the offset area(s);

(4) commit to a protection mechanism for any areas of land acquisition, being either the area is ceded to the Crown for the purpose of conservation, or the area is managed under a Conservation Covenant in perpetuity;

(5) if any land is to be ceded to the Crown for the purpose of conservation, the proponent will identify:

(a) the quantum of, and provide funds for, the upfront works associated with establishing the conservation area; and

(b) the quantum of, and provide a contribution of funds for, the management of this area for the first twenty years.

(6) state the management and/or rehabilitation actions to be undertaken including:

(a) the objectives and targets to be achieved, including completion criteria;

(b) management and/or rehabilitation actions and a timeframe for the actions to be undertaken;

(c) funding arrangements and timing of funding for conservation activities; and

(d) monitoring requirements for activities.

(7) define the role of the proponent and/or any third parties**.**

7-3 After receiving notice in writing from the CEO that the Offset Strategy satisfies the requirements of condition 7-2, the proponent shall:

(1) implement the actions in accordance with the requirements of the approved Offsets Strategy; and

(2) continue to implement the approved Offsets Strategy until the CEO has confirmed by notice in writing that it has been demonstrated that the completion criteria in the Offsets Strategy have been met and therefore the implementation of the actions is no longer required.

7-4 The proponent shall review and revise the Offsets Strategy as and when directed by the CEO.

7-5 The proponent shall implement the latest revision of the Offsets Strategy, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 7-2.

Schedule 1

Table 1: Summary of key proposal characteristics

Proposal Title	Forrestfield-Airport Link
Short Description	The Proposal is to extend the Perth rail network from the Bayswater Station/Midland line through to Forrestfield. The proposal includes twin bored tunnels which are approximately five kilometres long, two stations, car park, dive structures, cross passages, emergency egress shafts, signalling and telecommunication equipment as well as relocation of underground services (gas and cabling) and the re-alignment of Dundas Road.

Table 2: Physical and Operational Elements

Column 1	**Column 2**	**Column 3**
Element	**Location**	**Authorised Extent**
• Clearing and disturbance. • Excavation and tunneling. • Dewatering and recharge activities.	Located within the Bayswater and Forrestfield Development Envelopes as shown in: • Figure 1 of Schedule 1 - FAL Forrestfield Development Envelope • Figure 2 of Schedule 1 - Bayswater Development Envelope	• Clearing up to 13.23 ha of native vegetation, which includes: - 1.6 ha of Threatened Ecological Community Swan Coastal Plain 20a; and - 25 *Conospermum undulatum* plants within the 65 ha Development Envelopes (Bayswater and Forrestfield combined). • Surface disturbance of 46.3 ha within the 65 ha Development Envelopes (Bayswater and Forrestfield combined).

Table 4: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate.
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986*
ha	hectares
SCP	Swan Coastal Plain

Figures (attached)

Figure 1: Forrestfield Development Envelope
(This figure is a representation of the coordinates in Schedule 2)

Figure 2: Bayswater Development Envelope
(This figure is a representation of the coordinates in Schedule 2)

Figure 1: Forrestfield Development Envelope

Figure 2: Bayswater Development Envelope

Schedule 2

Geographic spatial data coordinates

Coordinates defining the Forrestfield Development Envelope and the Bayswater Development Envelope are held by the Office of the Environmental Protection Authority, Document Reference Number (Alfresco Ref - 2015-0001187003).

Appendix 4

Proponent's API Environmental Review documentation

Provided on CD in hardcopies of this report and on the EPA's website at www.epa.wa.gov.au