Byford Rail Extension

Environmental Scoping Document

January 2021

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Document Information

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Environmental Scoping Document

Proposal name: Byford Rail Extension

Proponent: Public Transport Authority of Western Australia

Assessment number: 2261

Location: 26 km south-east of Perth, 8 km south of Armadale

Local Government Area: City of Armadale, Shire of Serpentine-Jarrahdale

EPBC reference no: 2020/8764

1. Introduction

The Public Transport Authority of Western Australia (PTA) is proposing to develop and implement the Byford Rail Extension Proposal (the Proposal). The Proposal is one of several METRONET projects that aim to improve and integrate the public transport network and align with the State Government's vision for future land use planning in Western Australia. The Proposal comprises 8 km of rail connecting Armadale, approximately 26 km south-east of Perth to Byford located 8 km south of Armadale. The Proposal will extend the existing electrified passenger rail network from Armadale Station to the proposed new Byford Station. The northern section of the Proposal is within the City of Armadale. The southern section is within the Shire of Serpentine - Jarrahdale.

The Environmental Protection Authority (EPA) has determined that the Proposal is to be assessed under Part IV of the *Environmental Protection Act 1986* (EP Act). The decision to assess the Proposal was made on 7 October 2020 and the level of assessment was set at Public Environmental Review.

The EPA determined that the proponent should prepare the Environmental Scoping Document (ESD). The purpose of the ESD is to define the form, content, timing and procedure of the environmental review, required by s. 40(3) of the EP Act. This ESD has been prepared by the PTA in consultation with the EPA, decision-making authorities and interested agencies consistent with the EPA's Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA 2020a).

Form

The EPA requires that the form of the report on the environmental review required under s. 40 (Environmental Review Document (ERD)) is according to the Environmental Review Document template (refer to the EPA's Instructions on how to prepare an Environmental Review Document, EPA, 2020b). Additional information can also be included where relevant to the EPA's assessment.

Content

The EPA requires that the environmental review includes the content outlined in Sections 2 to 6 of this ESD.

Timing

Table 1 sets out the indicative timeline for the assessment of the Proposal agreed between the EPA and the proponent. This indicative timeline is subject to the provision of adequate information.

Table 1: Indicative Assessment Timeline

Key Assessment Milestones	Completion Date
EPA approves Environmental Scoping Document	24 Dec 2020
Proponent submits first draft Environmental Review Document	2 Mar 2021
EPA provides comment on first draft Environmental Review Document	15 Mar 2021
Proponent submits revised draft Environmental Review Document	29 Mar 2021
EPA authorises release of Environmental Review Document for public review	6 Apr 2021
Proponent releases Environmental Review Document for public review for 2 weeks	12 Apr 2021
Close of public review period	27 Apr 2021
EPA provides Summary of Submissions	3 May 2021
Proponent provides Response to Submissions	18 May 2021
EPA reviews the Response to Submissions	1 Jun 2021
EPA considers draft assessment report at EPA Board meeting and completes assessment	15 Jul 2021
Following EPA Board meeting EPA finalises assessment report following EPA Board meeting (including two weeks consultation on draft conditions) and gives report to Minister	28 Jul 2021

Procedure

The EPA requires the proponent to undertake the environmental review according to the procedures in the Administrative Procedures and the Procedures Manual (EPA 2020a).

This ESD has not been released for public review. The ESD will be available on the EPA website (www.epa.wa.gov.au) upon endorsement and must be appended to the ERD.

Assessment as an accredited assessment (EPBC 2020/8764)

The Proposal is being assessed under a State level Public Environmental Review process with two weeks of public review, which provides for prevention, minimisation and management of any relevant impacts. The Proposal is also subject to local or State government planning schemes and policies as described in Section 6.

The Proposal has been referred to the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2020/8764). The DAWE determined on 12 October 2020 that the Proposal is a controlled action under the EPBC Act. The Proposal is being assessed as an accredited assessment by the EPA.

The relevant matters of national environmental significance (MNES) for the Proposal are:

- Listed threatened species and communities (sections 18 and 18A).

This ESD includes work required to be carried out and reported on in the ERD in relation to MNES. The ERD will also address the matters in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000*.

MNES that may be impacted by the Proposal will be identified and the potential impacts on these matters addressed within each relevant preliminary environmental factor identified in Table 4. The ERD will include a separate section that summarises the potential impacts on MNES and describes, to the extent practicable, any feasible alternatives to the proposed action and possible mitigation measures. Proposed offsets to address significant residual impacts on MNES will also be discussed.

2. The Proposal

The Proposal is part of the Western Australian Government's vision to implement and build METRONET, which will aid in transforming Perth's public transport network (METRONET 2019). The long-term vision (i.e. to 2050) is for a public transport network to support a population of 3.5 million people.

The PTA aims to implement the Proposal by constructing and operating an extension to the electrified passenger railway line between Armadale and Byford. The existing Armadale Station will be modified and a new Byford station will be constructed.

The Proposal includes an electrified 8 km dual track railway that will connect Armadale Station to the new Byford Station. The Proposal also includes replacement of a number of existing at-grade rail crossings (level crossings) with grade separated crossings, either road over rail or rail over road. The Development Envelope includes the area to be occupied by permanent infrastructure as well as temporary construction and access areas required to construct the Proposal.

A new Byford Station (north of Abernethy Road), with intermodal rail, bus, carpark, and active mode (cycling and walking) facilities, will be constructed and operated.

The Proposal will be constructed within the existing non-electrified Australind rail corridor from Armadale to Byford. Modifications will also be required within a portion of the existing electrified rail corridor between Sherwood Station and Armadale Station.

The ERD is to include a section that sets out how the PTA evaluated, compared and considered alternative route alignments and construction methods during the planning phase of the Proposal to avoid and minimise the extent of potential environmental impacts, particularly on biodiversity values.

A summary and the key characteristics of the Proposal are set out in Tables 2 and 3. The key proposal characteristics may change as a result of the findings of studies and investigations conducted and the application of the mitigation hierarchy by the Proponent.

Table 2: Summary of the Proposal

Item	Details
Proposal title	Byford Rail Extension
Proponent name	Public Transport Authority of Western Australia
Short description	The Proposal is to construct and operate an 8 km new railway (including dual tracks and associated rail infrastructure) between Armadale and Byford. The Proposal includes modification to the existing Armadale Station and construction of a new Byford Station. The Proposal also includes the replacement of a number of existing at-grade line crossings (level crossings) with grade separated crossings, either road over rail or rail over road.

Table 3: Location and proposed extent of physical and operational elements

Element	Location	Proposed extent
Physical elements		
Railway tracks and associated infrastructure	The new 8 km dual railway track extends the existing electrified rail network at Armadale in a southerly direction using the existing Australind rail corridor (the Corridor) to the new Byford Station, north of Abernethy Road, Byford (Figure 1). Rail modifications will also be required as far as Sherwood Station 1.5 km north of Armadale Station.	Disturbance of up to 160 ha of the Development Envelope, including clearing of up to 50 ha of vegetation. The project footprint will be developed during the project design phase and will minimise environmental impacts including the clearing of native vegetation where practicable.
Armadale Station (modifications)	Located approximately 500 m south of Armadale Road, Armadale (Figure 1).	Modifications to the existing railway station and associated facilities including intermodal rail, bus, 'park and ride', 'kiss and ride' and active mode (walking/cycling) facilities.
Byford Station	Located approximately 8 km south of the existing Armadale Station, 400 m north of Abernethy Road, Byford (Figure 1).	New railway station and associated facilities including intermodal rail, bus, 'park and ride', 'kiss and ride' and active mode (walking/cycling) facilities.
Level Crossings	Located along the Corridor.	Existing level crossings will be retained, closed or replaced with grade separated crossings, depending on the most appropriate design option. Each crossing will fit entirely within the Development Envelope.
Wungong Brook Rail Bridge	Rail crossing over Wungong Brook.	Duplication of rail bridge over Wungong Brook.
Construction and access areas	Where practicable the PTA will locate temporary construction areas in areas of existing disturbance.	Construction and access areas in and adjacent to the Corridor, entirely within the 160 ha Development Envelope.
Operational elements		
Rail and Bus Services	The passenger railway will operate as an extension to the existing Perth to Armadale line, extending 8 km to Byford (Figure 1). New rail and bus services are proposed for Byford Station.	The passenger railway will operate within the 160 ha Development Envelope (Figure 2).

3. Preliminary Key Environmental Factors and required work

The preliminary key environmental factors for the environmental review are:

- Flora and vegetation.
- Terrestrial fauna.
- Inland waters.
- Social surroundings.

Table 4 outlines the work required for each preliminary key environmental factor and contains the following elements for each factor:

- EPA factor and EPA objective for that factor.
- Relevant activities – the Proposal activities that may have a significant impact on that factor.
- Potential impacts and risks to that factor.
- Required work for that factor.
- Relevant policy and guidance – EPA (and other) guidance and policy relevant to the assessment.

The following EPA guidance applies to all factors:

- *Statement of Environmental Principles, Factors and Objectives* (EPA 2018b).
- *Instructions and Template: Part IV Environmental Management Plans* (EPA 2020c)
- *Instructions on how to prepare an environmental review document* (EPA 2020b)

The following guidance applies to Flora and Vegetation and Fauna factors:

- *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)* (EPA 2020c).

Table 4: Preliminary Key Environmental Factors and required work

3.1. Flora and Vegetation	
EPA Objective	To protect flora and vegetation so that biological diversity and ecological integrity are maintained.
Relevant activities	• Clearing of native vegetation. • Cut and fill works. • Construction of permanent and temporary infrastructure including but not limited to rail, roads, car parks, buildings, hard stand and laydown areas. • Operation of plant, machinery and service vehicles. • Operation and maintenance of the electrified railway line. • Soil compaction. • Temporary dewatering and groundwater abstraction for construction purposes, if required.
Potential impacts and risks	• Permanent loss of flora and vegetation through clearing. • Indirect impacts from dust, weeds, change to surface water drainage flow patterns and infiltration during rainfall events and/or edge effects. • Impacts from the introduction and/or distribution of diseases to surrounding bushland areas, including *Phytophthora* Dieback. • Fragmentation of intact native vegetation including impacts on significant ecological communities, and the potential for fragmentation of ecological linkages. • Potential indirect impacts on significant ecological communities and groundwater dependant ecosystems from dewatering and groundwater abstraction, if required. • Clearing of significant flora that occur, or have a high likelihood or occurring, within the Development Envelope • Increased risk of bushfire from operation of an electrified railway near areas of vegetation.
Required Work	1. Identify and characterise the flora and vegetation that may be directly or indirectly impacted by the Proposal, in accordance with Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016b). Surveys should be designed to inform local and regional context. Surveys should also utilise the DAWE Protected Matters Search Tool, where appropriate. 2. Demonstrate how surveys are relevant, representative and demonstrate consistency with current EPA policy and guidance. Ensure database searches and taxonomic identifications are up-to-date. All surveys should be appended to the ERD. *Note: Survey results and a demonstration of how the requirements have been met are to be included in the ERD. Where surveys were undertaken prior to scoping, justification should be provided to demonstrate that they are relevant and consistent with EPA Guidance. Where surveys have not been undertaken consistent with the EPA Guidance provide a justification for any variation. If multiple surveys have been undertaken to support the assessment, a consolidated report should be provided including the integrated results of the surveys.* 3. Provide a figure depicting survey effort applied in relation to the survey area and Development Envelope, identifying the direct and indirect impact areas. 4. Determine whether any flora species recorded are significant and provide an analysis of local and regional context (refer to Environmental Factor Guideline – Flora and Vegetation for definition of significant flora).

5. Determine whether any vegetation identified is significant and provide an analysis of local and regional context.
6. Provide figures depicting the recorded locations of flora and vegetation in relation to the Development Envelope in accordance with Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016b).
7. Assess the potential direct and indirect impacts of the construction and operational elements of the Proposal on identified environmental values. Describe and assess the extent of cumulative impacts as appropriate.
8. Provide a quantitative assessment of impact:
    - For significant flora, this includes:
        - number of individuals and populations in a local and regional context based on survey data and existing database records, where available
        - numbers and proportions of individuals and populations directly or potentially indirectly impacted, and
        - numbers/proportions/populations currently protected within the conservation estate (where known).

    Note: Every effort should be made to obtain information on the number of individuals and populations of significant flora in a local and regional context. This may include multiple surveys and will require surveys to be undertaken at an appropriate time for each significant flora species that may be present.

    - For all vegetation units (noting threatened and priority ecological communities and significant vegetation) this includes:
        - area (in hectares) and proportions directly or potentially indirectly impacted, and
        - proportions/hectares of the vegetation unit currently protected within the conservation estate (where known).

Note: Each survey report should be accompanied by an IBSA number, generated following acceptance of an IBSA data package via the IBSA submissions portal at https://ibsasubmissions.dwer.wa.gov.au/

9. Describe the application of the mitigation hierarchy in the proposal design, construction and operation. Detail actions to be undertaken to avoid, minimise and mitigate impacts from the Proposal including revegetation of areas not required for permanent infrastructure.
10. Provide management and /or monitoring plans to be implemented pre- and post-construction to demonstrate that residual impacts are not greater than predicted. Management and / or monitoring plans are to be prepared in accordance with EPA instructions and consistent with the Australian Government Environmental Management Plan Guidelines (DofE 2014). Management Plans need to consider all relevant EPBC Act listed threatened flora species and threatened ecological communities where appropriate.
11. Demonstrate how the Proposal has had regard to, and is not inconsistent with, relevant recovery plans, conservation advice and threat abatement plans.
12. Describe how the Proposal has considered the Australian Government Significant Impact Guidelines 1.1 (DEWHA 2013) for all direct and indirect impacts on matters protected under the EPBC Act.
13. Demonstrate how the EPA's objective for this factor has been addressed.
14. Determine and quantify any significant residual impacts by applying the:
    - residual Impact Significance Model (page 11 of the WA Environmental Offsets Guideline) for all direct and indirect impacts, including an explanation of how the information and values within the model have been determined,

	○ WA Offset Template in the WA Environmental Offsets Guidelines (2014), including the provision of supporting information, and ○ the Australian Government Offsets Assessment Guide (DSEWPAC 2012a) including rationale for the values entered into the guide. 15. Assessment of whether the proposed offset is likely to counter-balance any significant residual impact, and whether the EPA's environmental factor objective will be met, over all relevant timeframes. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines (GoWA 2014). Spatial data defining the area of significant residual impacts for each environmental value should also be provided (e.g. vegetation type, vegetation condition, specific flora species habitat). 16. Assessment of whether the proposed offset is likely to counter-balance any significant residual impact, and whether the EPA's environmental factor objective will be met, over all relevant timeframes. Where significant residual impacts remain to any EPBC Act listed threatened species or threatened ecological community, propose an appropriate offset package consistent with the Commonwealth Environmental Offsets Assessment Guide (DSEWPAC 2012a) and the EPBC Act Environmental Offsets Policy (DSEWPAC 2012b). Demonstrate how the proposed offset is consistent with each of the principles of the Commonwealth Environmental Offsets Policy in addition to providing a rationale for the values entered into the offset guide. Spatial data defining the area of significant residual impacts for each environmental value should also be provided (e.g. vegetation type, vegetation condition, specific flora species habitat)
Policy and guidance	**EPA Policy and Guidance** • Environmental Factor Guideline – Flora and Vegetation (EPA, 2016) • Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016) • Guidance Statement 6 – Rehabilitation of Terrestrial Ecosystems (EPA, 2006). • Environmental Protection Bulletin 20 – Protection of naturally vegetated areas through planning and development (EPA, 2013). **Other policy and guidance** • Significant Impact Guidelines 1.1 - Matters of National Environmental Significance, Commonwealth of Australia (DEWHA 2013). • Department of the Environment and Energy (2018). Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomi*. Canberra: Commonwealth of Australia. • *Corymbia calophylla - Kingia australis* woodlands on heavy soil (Swan Coastal Plain Community type 3a - Gibson et al. 1994) interim recovery plan 2011-2016 • Environmental Management Plan Guidelines (DotE 2014). • State Planning Policy No. 2.8 Bushland Policy for the Perth Metropolitan Region (WAPC, 2010). • Western Australian Environmental Offsets Policy (GoWA, 2011). • Western Australian Environmental Offsets Guidelines (GoWA, 2014). • Western Australian Environmental Offsets Template (GoWA, 2014). • Relevant recovery plans, conservation advice and/or threat abatement plans for conservation significant species and EPBC Act listed threatened species and ecological communities that are known to occur, or are likely to occur in the vicinity of the Proposal's Development Envelope.

	• Survey guidelines for Australia's threatened orchids: Guidelines for detecting orchids listed as 'Threatened' under the *Environment Protection and Biodiversity Conservation Act 1999* (DEWHA 2013). • *Environment Protection and Biodiversity Conservation Act 1999,* Environmental Offsets Policy (DSEWPC 2012). • How to use the Offsets assessment guide. Department of Sustainability, Environment, Water, Population and Communities (DSEWPC 2012). • Department of the Environment and Energy (2017). Approved Conservation Advice for *Corymbia calophylla - Kingia australis* woodlands on heavy soils of the Swan Coastal Plain. Canberra: Department of the Environment and Energy. • English, V. & J. Blyth (2000). *Corymbia calophylla - Kingia australis* woodlands on heavy soil (Swan Coastal Plain Community type 3a - Gibson et al. 1994), Interim Recovery Plan 2000-2003. Interim Recovery Plan No. 59. Department of Conservation and Land Management, Wanneroo, Western Australia. • Department of the Environment and Energy (2017). Approved Conservation Advice for *Corymbia calophylla - Xanthorrhoea preissii* woodlands and shrublands of the Swan Coastal Plain. Canberra: Department of the Environment and Energy. • English, V. & J. Blyth (2000). *Corymbia calophylla - Xanthorrhoea preissii* woodlands and shrublands (Swan Coastal Plain Community type 3c - Gibson et al. 1994), Interim Recovery Plan 2000-2003. Interim Recovery Plan No. 60. Department of Conservation and Land Management, Wanneroo, Western Australia. • Department of Sustainability, Environment, Water, Population and Communities (2012). Approved Conservation Advice for Clay Pans of the Swan Coastal Plain. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. • Threatened Species Scientific Committee (TSSC) (2012). Commonwealth Listing Advice on Claypans of the Swan Coastal Plain. Department of Sustainability, Environment, Water, Population and Communities. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. • Department of Biodiversity, Conservation and Attractions (2019). National Recovery Plan for the Clay pans of the Swan Coastal Plain Ecological Community. Department of Biodiversity, Conservation and Attractions, Perth, Western Australia. • Threatened Species Scientific Committee (2016). Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community. Canberra: Department of the Environment and Energy. • Department of the Environment, Water, Heritage and the Arts (2008). Approved Conservation Advice for *Diuris purdiei* (Purdie's Donkey-orchid). Canberra: Department of the Environment, Water, Heritage and the Arts. • Department of the Environment, Water, Heritage and the Arts (2008). Approved Conservation Advice for *Drakaea micrantha* (Dwarf Hammer-orchid). Canberra: Department of the Environment, Water, Heritage and the Arts. • Department of Environment and Conservation (2004). *Eucalyptus balanites* Interim Recovery Plan 2004-2009. Interim Recovery Plan no. 182. Department of Environment and Conservation, Western Australia. • Threatened Species Scientific Committee (2018). Conservation Advice *Synaphea* sp. Pinjarra Plain (A.S. George 17182). Canberra: Department of the Environment and Energy. • Threatened Species Scientific Committee (2018). Conservation Advice *Synaphea* sp. Serpentine (G.R. Brand 103). Canberra: Department of the Environment and Energy.

	• Department of the Environment, Water, Heritage and the Arts (2008). Approved Conservation Advice for *Tetraria australiensis* (Southern Tetraria). Canberra: Department of the Environment, Water, Heritage and the Arts. • Advice on the presence of hybrids in listed ecological communities (Threatened Species Scientific Committee (TSSC), 2011)

3.2. Terrestrial Fauna

EPA Objective	To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.
Relevant activities	• Permanent clearing of native vegetation. • Cut and fill works. • Construction of permanent and temporary infrastructure including rail, roads, buildings, hard stand, fencing and laydown areas. • Lighting (and noise) during construction and operation. • Movement of machinery and vehicles. • Operation and maintenance of the electrified railway line.
Potential impacts and risks	• Permanent loss of fauna habitat due to clearing and construction of infrastructure. • Fauna deaths and injury resulting from collisions with earth moving equipment and/or vehicles during construction and operation. • Fragmentation of fauna habitat, barriers to fauna movement and/or loss of ecological connectivity. • Degradation of habitat and habitat modification from introduction and increased spread of weeds and/or disease, soil pathogens, altered surface water flows and edge effects. • Noise and lighting during construction and operation may impact or change fauna movement and behaviour. • Change in feral animal abundance and/or movement.
Required Work	17. In accordance with the requirements of EPA Guidance conduct a desktop study to identify and characterise the terrestrial fauna and fauna habitats to inform local and regional context. Surveys should also utilise the Department of Agriculture Water and the Environment (DAWE) Protected Matters Search Tool, where appropriate. 18. Based on the results of the desktop study: o conduct a Basic (Level 1) survey and fauna habitat assessment, o conduct a Detailed (Level 2) survey, and o conduct targeted surveys for significant fauna that may be directly or indirectly impacted including for the three species of Black Cockatoos; Carnaby's cockatoo, Baudin's cockatoo, forest red-tailed cockatoo, and Carter's Freshwater Mussel - *Westralunio carteri.* *Note: The desktop study, surveys and ERD should consider vertebrate fauna (including aquatic fauna) and Short Range Endemic (SRE) and/or other significant invertebrates. Survey design should ensure that adequate local and regional contextual data are collected and should consider cumulative impacts. Surveys should include sites in both impact and non-impact (reference) areas.* 19. Demonstrate how surveys are relevant, representative and consistent with current EPA policy and guidance and this scoping document.

	20. Provide a map of the survey effort applied in relation to the fauna habitats, the survey area, Development Envelope, identifying the direct and indirect impact areas. 21. Identify and describe the fauna assemblages present and likely to be present within the Development Envelope that may be impacted by the Proposal. 22. Identify and describe the characteristics of the fauna habitats identified by the desktop study and surveys, including a map of their extents in relation to the study area, the Development Envelope and direct and indirect impact areas. Describe significant habitats, including but not limited to: refugia, breeding areas, key foraging habitat, movement corridors and linkages 23. Identify significant fauna and describe in detail their known ecology, likelihood of occurrence, habitats and known threats. Map the locations of significant fauna records in relation to the fauna habitats, the study area, the Development Envelope, and direct and indirect impact areas. Note*: Survey reports should be prepared following EPA Guidance and appended to the ERD. Ensure species database searches and taxonomic identifications are up-to-date. IBSA data packages should be submitted in accordance with EPA guidance and an IBSA number should be submitted with each survey report. If multiple surveys have been undertaken to support the assessment, a consolidated report should be provided including the integrated results of the surveys. Reports for vertebrate fauna and SRE (and/or other significant) invertebrate fauna should be provided separately.* 24. Identify any potential fauna movement corridors within, adjacent to or across the Development Envelope including, but not limited to, areas of intact native vegetation, using appropriate methods. Describe the methods taken. 25. Identify, describe and quantify the potential impacts (direct, indirect and cumulative) on fauna assemblages, habitats and significant species that may occur following implementation of the Proposal in a local and regional context. 26. In accordance with relevant guidelines set out below, provide figures and maps illustrating fauna habitats, known recorded locations of significant vertebrate species and SRE (and/or other significant) invertebrate fauna in relation to the Development Envelope. 27. Demonstrate that no SRE invertebrate fauna is restricted to the Development Envelope or that such species have been adequately surveyed outside of the Development Envelope. 28. Provide a table of the extents of each habitat within the Development Envelope and survey extent, and the predicted amount to be directly and indirectly impacted. Consider potential impacts on all State and Commonwealth listed threatened fauna species that are known or likely to occur within and/or adjacent to the Development Envelope. 29. Outline and justify the proposed avoidance and mitigation measures to reduce the potential impacts of the Proposal. 30. Provide management and /or monitoring plans to be implemented pre- and post-construction to demonstrate that residual impacts are not greater than predicted. Management and / or monitoring plans are to be prepared in accordance with EPA instructions and consistent with the Australian Government Environmental Management Plan Guidelines (DofE 2014). Management and/or monitoring plans are to be presented in accordance with the EPAs Instructions. 31. Demonstrate how the Proposal has had regard to, and is not inconsistent with any relevant recovery plans, conservation advice and threat abatement plans. 32. Predict the residual impacts on terrestrial fauna after considering and applying the mitigation hierarchy. 33. Determine and quantify any significant residual impacts by applying the: ○ residual Impact Significance Model (page 11 of the WA Environmental Offsets Guideline) for all direct and indirect impacts, including an explanation of how the information and values within

	the model have been determined, ○ WA Offset Template in the WA Environmental Offsets Guidelines (2014), including the provision of supporting information, and ○ the Australian Government Offsets Assessment Guide (DSEWPAC 2012a) including rationale for the values entered into the guide. 34. Assessment of whether the proposed offset is likely to counter-balance any significant residual impact, and whether the EPA's environmental factor objective will be met, over all relevant timeframes. Where significant residual impacts remain, propose an appropriate offsets package with supporting information to demonstrate consistency with the WA Environmental Offsets Policy and Guidelines. Where residual impacts relate to EPBC Act listed threatened species propose an appropriate offset package consistent with the Commonwealth and WA Environmental Offsets Policy. Spatial data defining the area of significant residual impacts for each environmental value should also be provided (e.g. specific fauna species habitat). 35. Assessment of whether the proposed offset is likely to counter-balance any significant residual impact, and whether the EPA's environmental factor objective will be met, over all relevant timeframes. Propose an appropriate offset package consistent with the Commonwealth Environmental Offsets Policy for the predicted likely significant residual impact to Black Cockatoos. Demonstrate how the proposed offset is consistent with each of the principles of the Commonwealth Environmental Offsets Policy in addition to providing a rationale for the values entered into the offset guide. Spatial data defining the area of significant residual impacts for each environmental value should also be provided (e.g. vegetation type, vegetation condition, specific fauna species habitat).
Policy and guidance	**EPA Policy and Guidance** • Environmental Factor Guideline – Terrestrial Fauna (EPA 2016c) • Technical Guidance - Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA 2016e) • Technical Guidance: Sampling of short range endemic invertebrate fauna (EPA 2016f) • EPA Advice: Carnaby's cockatoo in environmental impact assessment in the Perth and Peel region (EPA 2019) **Other policy and guidance** • Baudin's cockatoo *Calyptorhynchus baudinii* and Forest red-tailed black cockatoo *Calyptorhynchus banksii naso*) Recovery Plan (DEC, 2008). • Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan (DPAW, 2013). • Chuditch (*Dasyurus geoffroii*) Recovery Plan (DEC, 2012). • Western Australian Environmental Offsets Policy (GoWA, 2011). • Western Australian Environmental Offsets Guidelines (GoWA, 2014). • Western Australian Environmental Offsets Template (GoWA, 2014). • Relevant recovery plans, conservation advice and/or threat abatement plans for conservation significant species and EPBC Act listed threatened species that are known to occur, or are likely to occur, in the vicinity of the Development Envelope. • Draft Revised Referral Guideline for Three Threatened Black Cockatoo Species: Carnaby's cockatoo, Baudin's cockatoo, Forest red-tailed black cockatoo (DotEE, 2017) • Referral guidelines for three species of Western Australian black cockatoos (Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC), 2012 • Environmental Offsets Policy (DSEWPC 2012). • Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the EPBC Act (DEWHA, 2010).

	• Department of the Environment and Energy (2018). Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomi*. Canberra: Commonwealth of Australia. • Threat Abatement Plan for Predation by Feral Cats, (DotE, 2015). • Threat Abatement Plan for Predation by the European Red Fox, (DEWHA, 2008). • Threat Abatement Plan for Competition and Land Degradation by Rabbits, (DotE, 2016). • Environmental Management Plan Guidelines (DotE, 2014). • Threatened Species Scientific Committee Conservation Advice *Westralunio carteri* Carter's freshwater mussel. (DoEE, 2018). • Threatened Species Scientific Committee (2018). Conservation Advice *Calyptorhynchus baudinii* Baudin's cockatoo. Canberra: Department of the Environment and Energy. • Department of the Environment, Water, Heritage and the Arts (2009). Approved Conservation Advice for *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo). Canberra: Department of the Environment, Water, Heritage and the Arts.

3.3. Inland Waters

EPA Objective	To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected
Relevant activities	• Clearing of native vegetation. • Dewatering and/or abstraction of groundwater. • Construction of railway and hard stand areas. • Decommissioning and removal of Wungong Brook rail bridge. • Construction of new bridge over Wungong Brook. • Alteration of landscape for construction of railway, associated infrastructure and laydown areas. • Storage and use of chemicals and fuels. • Refuelling and servicing of vehicles and machinery. • Temporary dewatering and groundwater abstraction for construction purposes, if required. • Ongoing presence of railway, stations and associated infrastructure.
Potential impacts and risks	• Interruption of and changes to surface water flows to Wungong Brook and Conservation Category Wetlands. • Changes to infiltration and recharge of groundwater. • Changes to surface water quality due to contamination from spills, discharge of dewatering effluent. • Changes in groundwater quality and quantity due to dewatering and/or groundwater abstraction. • Indirect impacts on groundwater dependent ecosystems and/or riparian vegetation due to changes to surface water flows or hydrogeological regimes. • Degradation of Conservation Category Wetlands (CCW's) and Resource Enhancement Wetlands (REW's) that intersect or are adjacent to the Development Envelope. • Increase in sediment loads entering waterways and/or wetlands. • Changes in surface water or groundwater quality associated with the disposal of dewatered effluent. • Loss of terrestrial (freshwater) fauna due to changes in water quality or hydrological regimes.

Required Work	36. Characterise the local and regional hydrogeological regime and describe recharge and discharge mechanisms and surface water/groundwater interaction. 37. Identify, describe and assess the environmental values and significance of surface and groundwater hydrological characteristics within the Development Envelope and the immediately adjacent area upstream and downstream of the Development Envelope. Describe these values in local and regional contexts. Identify users of the identified values. 38. Identify, describe and assess the wetlands within and in proximity to the Development Envelope. Describe these values in local and regional contexts. Wetland assessments should be undertaken in accordance with 'A methodology for the evaluation of wetlands on the Swan Coastal Plain' (DBCA 2017). This document, in addition to information regarding wetland delineation and identification, can be obtained at https://www.dpaw.wa.gov.au/management/wetlands/publications-and-links. Wetland identification and assessment should utilise the Department of Biodiversity Conservation and Attractions (DBCA) Geomorphic Wetlands Swan Coastal Plain Dataset or any approved update or replacement of this dataset. 39. Identify, describe, analyse and assess the potential impacts (direct and indirect) as a result of both construction and operation of the proposal on water quantity (excess and deficit) and quality in relation to surface and groundwater, waterways and their floodplains and wetlands within and near the development envelope. 40. Predict the extent, severity and duration of potential impacts to the environmental values identified, including from changes to local and regional surface and groundwater flows and levels (excess and deficit), groundwater drawdown, local surface and groundwater quality and impacts to surface and groundwater users as a result of construction and operation. 41. Identify, describe and assess the potential impacts on Wungong Brook flood levels and upstream and downstream flood levels from the associated bridge/crossing. 42. Identify the preferred location of groundwater abstraction zones for water required to implement the proposal. 43. Demonstrate how the mitigation hierarchy of avoid, minimise, mitigate has been applied during the planning and design stages of the Project. 44. Describe and justify any proposed mitigation to reduce the potential impacts of construction and operation of the Proposal on the identified values. I 45. Provide management and /or monitoring plans to be implemented pre- and post-construction to demonstrate that residual impacts are not greater than predicted. Management and / or monitoring plans are to be prepared in accordance with the EPA's instructions to demonstrate and ensure the EPA's objective can be met. Plans to include any hydrological and hydrogeological assessments undertaken for dewatering and abstraction. 46. Provide maps of and justification for the location and number of any proposed drainage and stormwater infrastructure. 47. Discuss the proposed management, monitoring and mitigation to ensure impacts on inland water ecological values are not greater than predicted as a result of implementing the Proposal. This is to include, but not be limited to, consideration of suitable buffers, between the boundary of the Development Envelope and waterways and wetlands. 48. Demonstrate how best practice Water Sensitive Urban Design principles will be implemented in the design of the infrastructure and in stormwater and drainage components to ensure hydrological regimes and groundwater quality are maintained. 49. Assessment of whether the proposed offset is likely to counter-balance any significant residual impact, and whether the EPA's environmental factor objective will be met, over all relevant timeframes. Identify, describe and

	quantify the potential residual impacts (direct and indirect) that may occur following implementation of the proposed mitigation measures and determine the significance of the residual impacts on the identified environmental values by applying the residual impact significance model (page 11) and WA Offset template (Appendix 1) in the WA Environmental Offsets Guidelines (2014). Provide spatial data defining the area of any identified significant residual impacts and proposed offsets in relation to the Development Envelope. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy. *Note: Offsets may be appropriate if the construction or operation of the proposal results in a change in the hydrology of a wetland upstream or downstream of the development envelope such that the wetland or its ecological function are significantly impacted by the proposal. In this instance an offset would be appropriate to counter the significant residual impact to the hydrological processes of the wetland. Refer to Figure 3 of the WA Environmental Offsets Guidelines, 2014.*
Policy and guidance	**EPA Policy and Guidance** • Environmental Factor Guideline: Inland Waters (EPA 2018). **Other Policy and Guidance** • State Planning Policy 2.9 Water Resources (WAPC, 2006). • Environmental Water Provisions Policy for Western Australia (Water and Rivers Commission, 2000). • Wetlands Conservation Policy for Western Australia (Government of Western Australia, 1997). • A Guide to Managing and Restoring Wetlands in Western Australia (DEC 2012). • Geomorphic Wetlands Swan Coastal Plain Dataset (DBCA, 2020) or any approved update of this dataset. • Water Quality Protection Note 10, Contaminant Spills Emergency Response (DoW, 2006). • Water Quality Protection Note 56: Tanks for Fuel and Chemical Storage Near Sensitive Water Resources (DWER, 2018). • Water Quality Protection Note 83, Infrastructure Corridors Near Sensitive Water Resources (DoW, 2007). • Western Australian Environmental Offsets Policy (GoWA, 2011). • Western Australian Environmental Offsets Guidelines (GoWA, 2014). • Western Australian Environmental Offsets Template (GoWA, 2014).

3.4. Social Surroundings

EPA Objective	To protect social surroundings from significant harm.
Relevant activities	• Cut and fill works including temporary impacts associated with excavation activities, soil movement and stockpiling. • Clearing of native vegetation. • Soil compaction. • Construction activities associated with building the railway including rail infrastructure, stations, roads, buildings and other hard stand areas. • Operation of plant, machinery and service vehicles. • Operation and maintenance of the electrified railway line. • Installation of railway and associated infrastructure.

Potential impacts and risks	• Impacts on Registered Aboriginal Heritage Sites or cultural heritage values. • Temporary exposure to construction noise and vibration for sensitive receptors near the Development Envelope. • Increased noise from vehicle movements during construction impacting the amenity of landowners. • Increased and ongoing exposure to operational noise and vibration for sensitive receptors in close proximity to the rail infrastructure. • Changes to visual amenity within the landscape due to the construction of the railway and associated vegetation clearing, road and/or rail bridges and noise walls or barriers in a rural setting.
Required Work	50. Characterise, describe and analyse the surrounding land use and amenity values in and adjacent to the Development Envelope with a focus on sensitive receptors that may be impacted by noise and vibration or impacts to visual amenity. Include relevant maps to identify the sensitive receptors likely to be affected by these impacts associated with the Proposal. 51. Demonstrate how the mitigation hierarchy of avoid, minimise and mitigate has been applied during the planning and design stages of the project to minimise potential impacts on social surroundings. **Aboriginal Heritage** 52. Conduct ethnographic and archaeological surveys of the area likely to be impacted by the Proposal in order to identify and characterise any Aboriginal heritage sites and their relevance and importance to Aboriginal People and their culture. Include details of the discussions and considerations of the indirect impacts to registered Aboriginal heritage sites. 53. Provide a summary of the surveys undertaken, including the survey effort, timing and personnel. 54. Describe the Aboriginal heritage values recorded within the survey area with supporting maps. 55. Identify, describe, assess and analyse any potential impacts (direct and indirect) to identified Aboriginal Heritage values that may occur as a result of implementation of the Proposal. 56. Describe any proposed mitigation measures to avoid or minimise the identified direct and indirect impacts on Aboriginal heritage values that are to be implemented in consultation with Whadjuk and Gnaala Karla Boodja representatives as nominated by the South West Aboriginal Land and Sea Council (SWALSC) under the Noongar Standard Heritage Agreement. Include management actions that will be undertaken to manage the potential for disturbance to unknown sites of Aboriginal heritage significance during construction. 57. Include any proposed management and/or monitoring plans for Aboriginal heritage values that will be implemented pre- and post-construction to demonstrate and ensure the EPA's objective can be met. 58. Identify and describe the potential residual impacts (direct and indirect) that may occur following implementation of the proposed mitigation measures and determine the significance of the residual impacts on the identified environmental values of Aboriginal heritage. **Noise and Vibration** 59. Undertake noise and vibration monitoring and modelling as appropriate along the proposed alignment to determine ambient noise levels (including vibrational noise) in areas of noise sensitive receptors. Consideration should be given to construction and operational noise and vibration impacts. 60. Undertake an initial screening assessment and if required a detailed noise and vibration assessment in accordance with relevant guidelines to predict future

	noise and vibration levels resulting from the Proposal on sensitive receptors, including recreational values as appropriate. 61. Assess and analyse noise and vibration impacts along the proposed railway alignment in accordance with '*State Planning Policy 5.4 – Road and Rail Noise'* (WAPC, 2019), Australian Standard AS 2670.2-1990 and relevant guidance. Justify the use of any parameters used to monitor and model impacts from noise and vibration along the proposed alignment. Consideration should be given to planned areas of higher density and mixed-use development in close proximity to the proposed stations, including residential dwellings. 62. Identify relevant noise and vibration mitigation measures for identified sensitive receptors and describe any proposed mitigation to reduce the potential impacts of construction and operation from the Proposal. Provide maps of and justification for the location and number of any proposed mitigation infrastructure. 63. Include any proposed management and/or monitoring plans for noise and vibration that will be implemented pre- and post-construction to demonstrate and ensure that the EPA's objectives can be met. 64. Identify and describe the potential residual impacts (direct and indirect) that may occur following implementation of the proposed mitigation measures and determine the significance of the residual impacts of noise and vibration on the identified sensitive receptors. **Visual amenity** 65. Characterise the land use and aesthetic (visual amenity) values along the proposed alignment that have the potential to be impacted by implementation of the proposal. 66. Identify and describe any potential direct and indirect impacts on identified visual amenity values as a result of implementation of the proposal. 67. Identify and describe any proposed mitigation measures to avoid or minimise the potential impacts on the identified visual amenity values along the proposed alignment to demonstrate and ensure the EPA's objective can be met. 68. Identify and describe the potential residual impacts (direct and indirect) that may occur following implementation of the proposed mitigation measures and determine the significance of the residual impacts on the identified visual amenity values.
Policy and guidance	**EPA Policy and Guidance** • Environmental Factor Guideline: Social Surroundings (EPA 2016). **Other Policy and Guidance** • *Environmental Protection (Noise) Regulations 1997.* • State Planning Policy 5.4 – Road and Rail Noise (WAPC 2019). • Road and Rail Noise Guidelines (WAPC 2019). • Australian Standard AS 2670.2-1990: Evaluation of human exposure to whole body vibration - Part 2: Continuous and shock induced vibration in buildings (1 to 80 Hz) (Standards Australia 1990). • Mechanical vibration and shock – Evaluation of human exposure to whole-body vibration (Standards Australia 2018). • Rail Infrastructure Noise Guideline (NSW EPA 2013). • Visual landscape planning in WA: a manual for evaluation, assessment, siting and design (WAPC, 2007)

4. Other Environmental Factors or Matters

The following other environmental factors or matters relevant to the Proposal have been identified for consideration by the EPA, that must be addressed during the environmental review and discussed in the ERD.

4.1. Consideration of Alternatives

Include a section in the ERD that sets out how the PTA evaluated, compared and considered alternative route alignments and construction methods during the planning phase of the Proposal in order to avoid and reduce potential environmental impacts, particularly on biodiversity values. This section should also include the consequences of not proceeding with the action and a comparative description of the impacts of each alternative on matters protected by the controlling provision of the EPBC Act. Consideration of alternatives is to address each preliminary key environmental factor, and discussion of alternatives is to include consideration of the environment as well as social and economic issues.

4.2. Greenhouse Gas Emissions and Air Quality

Include a section in the ERD that discusses and compares net greenhouse gas emissions (tonnes of carbon dioxide equivalent per annum) between rail transport and conventional vehicle modes of transport; and the potential reduction in transport emissions (e.g. particulate matter, oxides of nitrogen, carbon monoxide) associated with reducing the number of motor vehicle journeys following construction of the proposal.

Describe and assess the results of studies, modelling or investigations, including:

a) identification of the potential transport emission reductions
b) analysis of the potential greenhouse gas emission (tonnes of carbon dioxide equivalent per annum) savings.

Include a discussion in the ERD of how the Proposal aligns with the recently released Western Australian Climate Policy (November 2020). The discussion should include consideration of the design, construction and operational phases of the Proposal.

4.3. Principle of Waste Minimisation

Set out the proposed waste minimisation strategy to demonstrate consideration of the principle of waste minimisation. The waste minimisation strategy should include details on the destination or use of removed materials in accordance with the principle of waste minimisation as defined in the EP Act.

4.4. Matters of National Environmental Significance

The Commonwealth DAWE requires additional information relevant to the assessment of impacts under the EPBC Act. Information should be included to enable the consideration of the social and economic impacts of the Proposal under the EPBC Act. Relevant matters may include:

- the cost of the Proposal (including the basis for any estimations of costs and/or benefits),
- expected employment impacts,
- social amenity/public use of affected areas,
- public concerns,
- cultural and traditional activities in or relating to the affected area, and
- details of any public and stakeholder consultation activities including outcomes

A discussion should also be provided which summarises the content and objectives of any relevant statutory documents for potentially impacted EPBC Act listed threatened species or ecological communities. The ERD should clearly demonstrate that the proposed action is not inconsistent with threat abatement plans or recovery plans for those species or communities.

Additional information relevant only to the assessment under the EPBC Act should be provided as appendices to the ERD.

During the ERD phase, other environmental factors or matters may be identified that were not apparent at the time that this ESD was prepared. If this situation arises, the PTA is to consult with the EPA to determine whether these environmental factors and/or matters are to be addressed in the ERD, and if so, to what extent.

The following information is required under the *EPBC Regulations 2000* Schedule 4

Make sure all proposed safeguards and mitigation measures cover the following points:

a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;
b) any statutory or policy basis for the mitigation measures;
c) the cost of the mitigation measures;
d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;
f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State government, local governments or the proponent;
g) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

Environmental record of person proposing to take the action

Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

a) the person proposing to take the action; and
b) for an action for which a person has applied for a permit, the person making the application
c) If the person proposing to take the action is a corporation—details of the corporation's environmental policy and planning framework

Information sources

For information given in a draft public environment report or environmental impact statement, the draft must state:

a) the source of the information; and
b) how recent the information is; and
c) how the reliability of the information was tested; and
d) what uncertainties (if any) are in the information

4.5. Holistic Impact Assessment

Provide a holistic impact assessment. In accordance with the EPA's instructions on how to prepare an environmental review document, provide a holistic assessment of the impacts of the proposal on the whole environment. Describe the connections and interactions between the parts of the environment (environmental factors) and discuss predicted outcomes in relation to the environmental principles and the EPA's environmental objectives.

5. Stakeholder Consultation

PTA will consult with stakeholders who are affected by, or are interested in, the Proposal. This includes the decision-making authorities (refer Section 6), other relevant State and Commonwealth government agencies and local government authorities, the local community and non-government environmental organisations.

The PTA will document the following in the ERD:

- identified stakeholders;
- the stakeholder consultation undertaken and the outcomes, including decision-making authorities' specific regulatory approvals and any adjustments to the Proposal as a result of consultation; and
- any future plans for consultation.

6. Decision-making Authorities

At this stage, the PTA has identified the authorities listed in Table 5 as potential decision-making authorities (DMA's) for the Proposal. Additional DMA's may be identified during the course of the assessment.

Table 5: Potential Decision-making Authorities

Decision-making Authority	Relevant legislation
1. Minister for Environment	*Environmental Protection Act 1986* – Part IV Divisions 1 and 2. *Biodiversity Conservation Act 2016* - Taking of flora and fauna.
2. Minister for Aboriginal Affairs	*Aboriginal Heritage Act 1972* – Section 18 Disturbance of a site(s) of Aboriginal heritage significance.
3. Minister for Planning	*Planning and Development Act 2005* – Scheme amendments.
4. Minister for Transport	*South-Western Railway Act 1891 - Construction of the Byford Railway Extension is authorised by this Act. It authorises the PTA to make railways and anything associated with the making of a railway along the land described in the Schedule and within 5 miles either side (known as the limits of deviation), in accordance with powers granted under section 99 of the Public Works Act 1902.*
5. Minister for Lands	*Land Administration Act 1997* – Section 182 Authority to enter land and do feasibility studies and surveys.
6. Minister for Water	*Rights in Water and Irrigation Act 1914* – Licence to take water (5C) and a licence to construct or alter a well (26D).
7. Minister for Lands	*Public Works Act 1902* – Pt IV, Section 82 – Authority to enter lands and do surveys.
8. CEO, Department of Water and Environmental Regulation	*Environmental Protection Act 1986* - Part V Division 3 *Environmental Protection Regulations 1987* – crushing of excess limestone during construction; works approval and licence to construct and operate concrete batching plants.
9. Chief Dangerous Goods Officer, Department of Mines, Industry Regulation and Safety	*Dangerous Goods Safety Act 2004* – Storage and handling of hazardous materials and Dangerous Goods Licence.
11. Chairman, Western Australian Planning Commission	*Planning and Development Act 2005* - approve Development Applications within Planning Control Areas.
12. Chief Health Officer, Department of Health	*Health Act 1911* s107(2)(b) *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* reg 4A. Drains, sanitary conveniences, and any apparatus for the treatment of sewage intended to serve a building that is not a single dwelling or any other building that produces more than 540 litres of sewage per day.
13. CEO, City of Armadale	*Building Act 2011* - Building application, permit and certificate. *Health Act (Underground Water Supply) Regulation 1959* – Regulation 11 - Approval required for a well or other underground source of water supply.

Decision-making Authority	Relevant legislation
	Environmental Protection (Noise) Regulations 1997 – Approval of Noise Management Plan.
14. CEO, Shire of Serpentine Jarrahdale	*Building Act 2011* - Building application, permit and certificate. *Health Act (Underground Water Supply) Regulation 1959* – Regulation 11 - Approval required for a well or other underground source of water supply. *Environmental Protection (Noise) Regulations 1997* – Approval of Noise Management Plan.
15. Commonwealth Minister for the Environment	*Environment Protection and Biodiversity Conservation Act 1999*

Figure 1 Regional Location

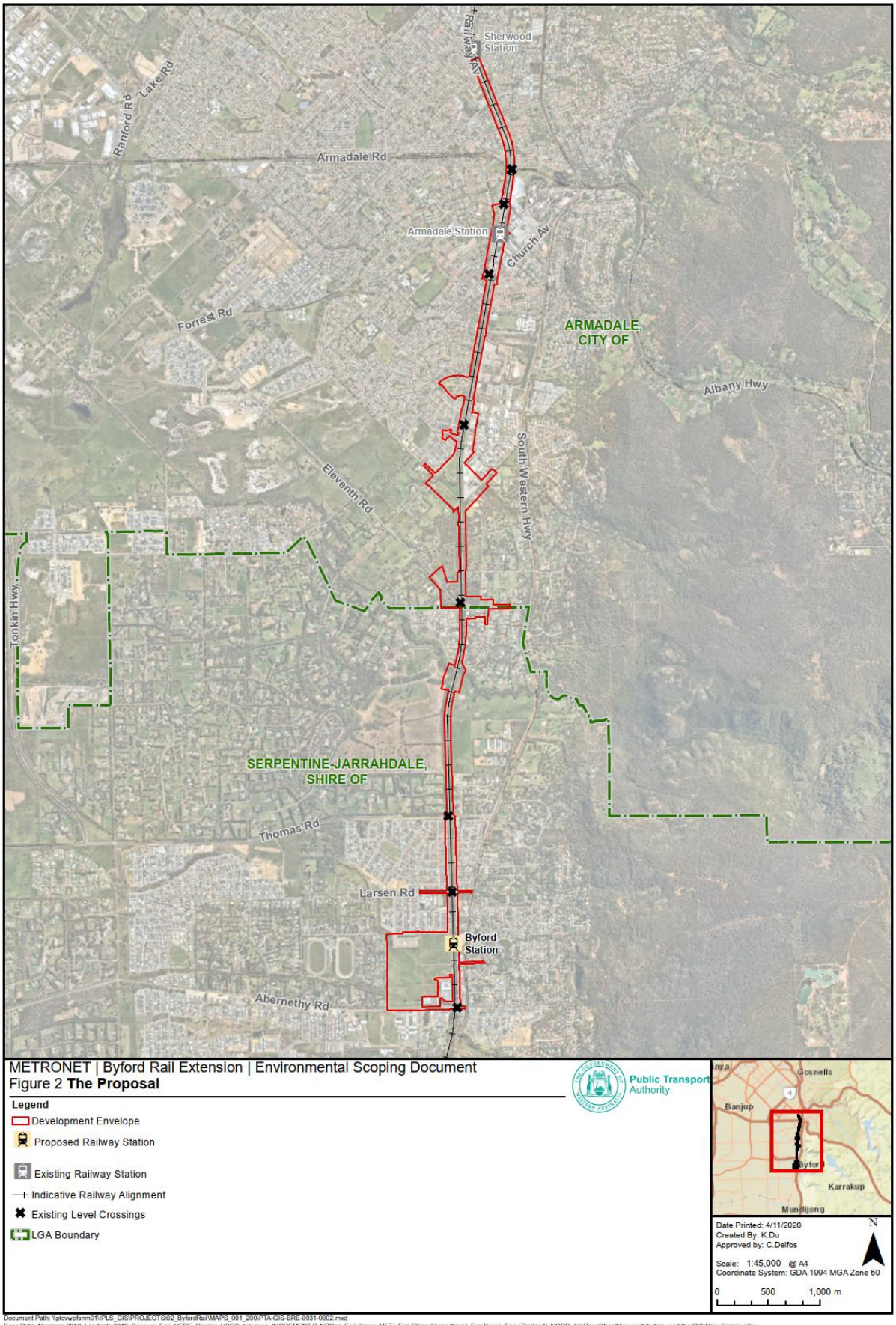

Figure 2 The Proposal

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