Vegetation Clearing Desktop Report / Clearing Assessment Report

Padbury–Wangara 132kV Transmission Cable

July 2025

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Vegetation Clearing Desktop Report / Clearing Assessment Report

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Western Power

363 Wellington Street
Perth WA 6000
GPO Box L921 Perth WA 6842

T: 13 10 87 | Fax: 08 9225 2660
TTY 1800 13 13 51 | TIS 13 14 50

Electricity Networks Corporation
ABN 18 540 492 861

enquiry@westernpower.com.au

Document Control

Document version history

Version	Date	Amendment
1	27-05-2025	Initial version
2	17-06-2025	Version 2 (Final)
3	8-7-2025	Addition of Document Id, formatting correction

1. Project Information

Project Area		
Project name: **Padbury–Wangara 132kV Transmission Cable**		**Contract/Work Order No:** T0625203
Main purpose of clearing	**Permanent/Temporary**	**Clearing area (ha)**
New underground transmission line	Permanent ☒	0.78 ha
	Temporary ☐	0 ha
Proposed start date: 1/02/2026		**Expected completion date:** 30/04/2026
Method of clearing: Mechanically cleared using slashing and chainsaws.		**Machinery to be used:** Truck and chipper, track loader and slasher, trailer, service vehicle and chainsaws.

Project details:

Western Power proposes to install the Padbury-Wangara 132kV Transmission Cable Route (Figure 1a and 1b) to support the transmission network within the north metropolitan area. The project comprises:

- Clearing of vegetation and earthworks
- Installation of new underground transmission cables
- Construction of new substation connections.

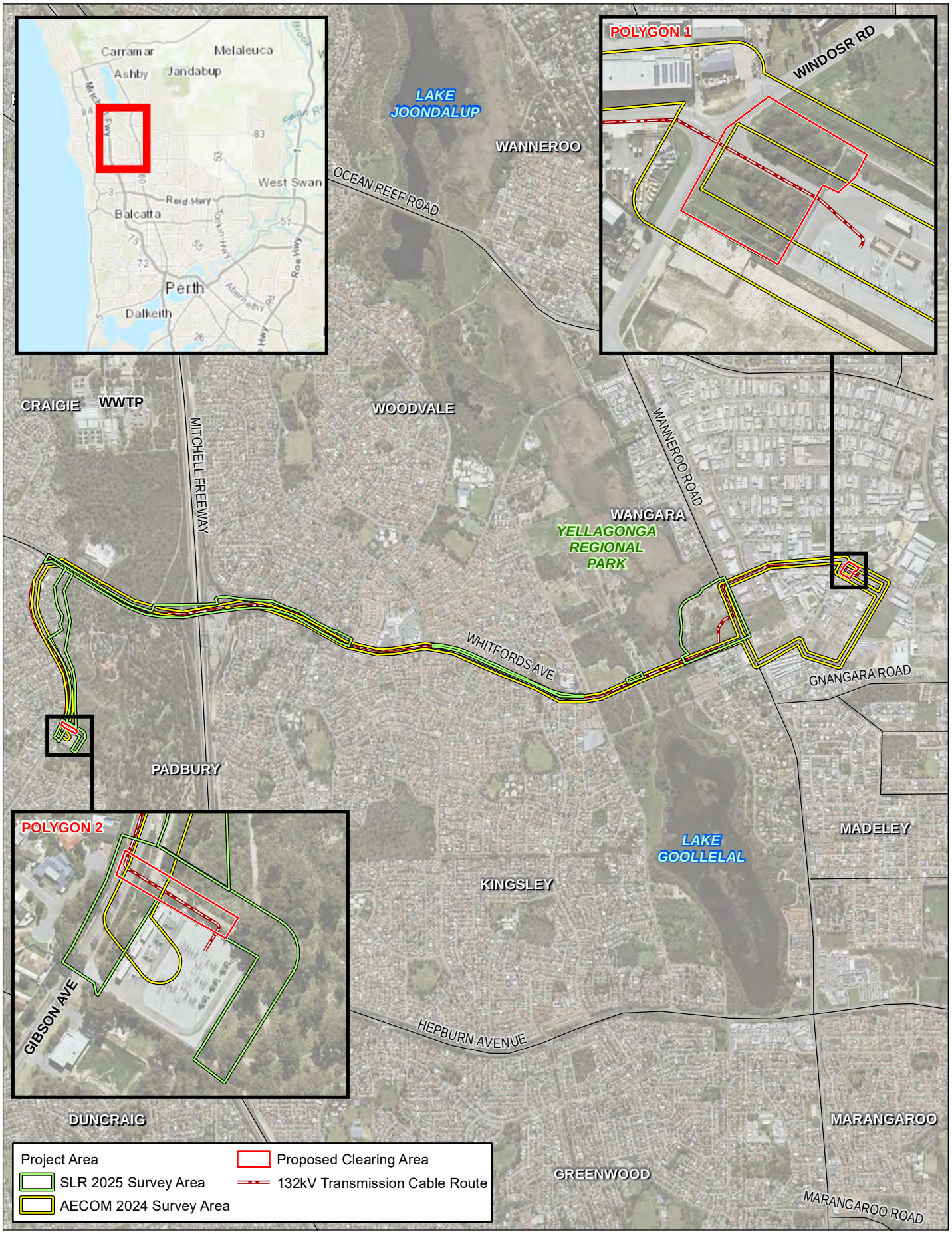
Western Power has developed an indicative project layout to determine the Proposed Clearing Area for the clearing associated with the new substation connections and underground distribution lines. The total area of native vegetation mapped within the AECOM Survey Area was 2.94 ha. The remaining area has been previously cleared, amounting to approximately 28.32 ha or 90.60% of the AECOM Survey Area. Given that the AECOM Survey Area did not fully encompass the Proposed Clearing Area, a supplementary survey was undertaken by SLR Consulting (SLR, 2025).

Within the Proposed Clearing Area approximately 0.38 ha (49%) of the 0.78 ha Proposed Clearing Area has been previously cleared or disturbed. Native vegetation is present across 0.4 ha (51%) of the Proposed Clearing Area.

Beyond the substation polygons (Proposed Clearing Area), the proposed alignment for the cabling route has been designed to be located either within the road lane/shoulder or existing cleared areas. Whilst there is 2.94 ha of native vegetation present across this area, no clearing is proposed.

Guardian Permit ID reference number:	**Permit/Exemption number:**
PER-0001591	CPS 1918-11

2. Map/photos



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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA 1994 MGA Zone 50

Scale	: 1:30,000 @ A4
Project Number	: 675.073130.00002
Date Drawn	: 15/05/2025
Drawn By	: Environmaps
Reviewed By	: A B-S

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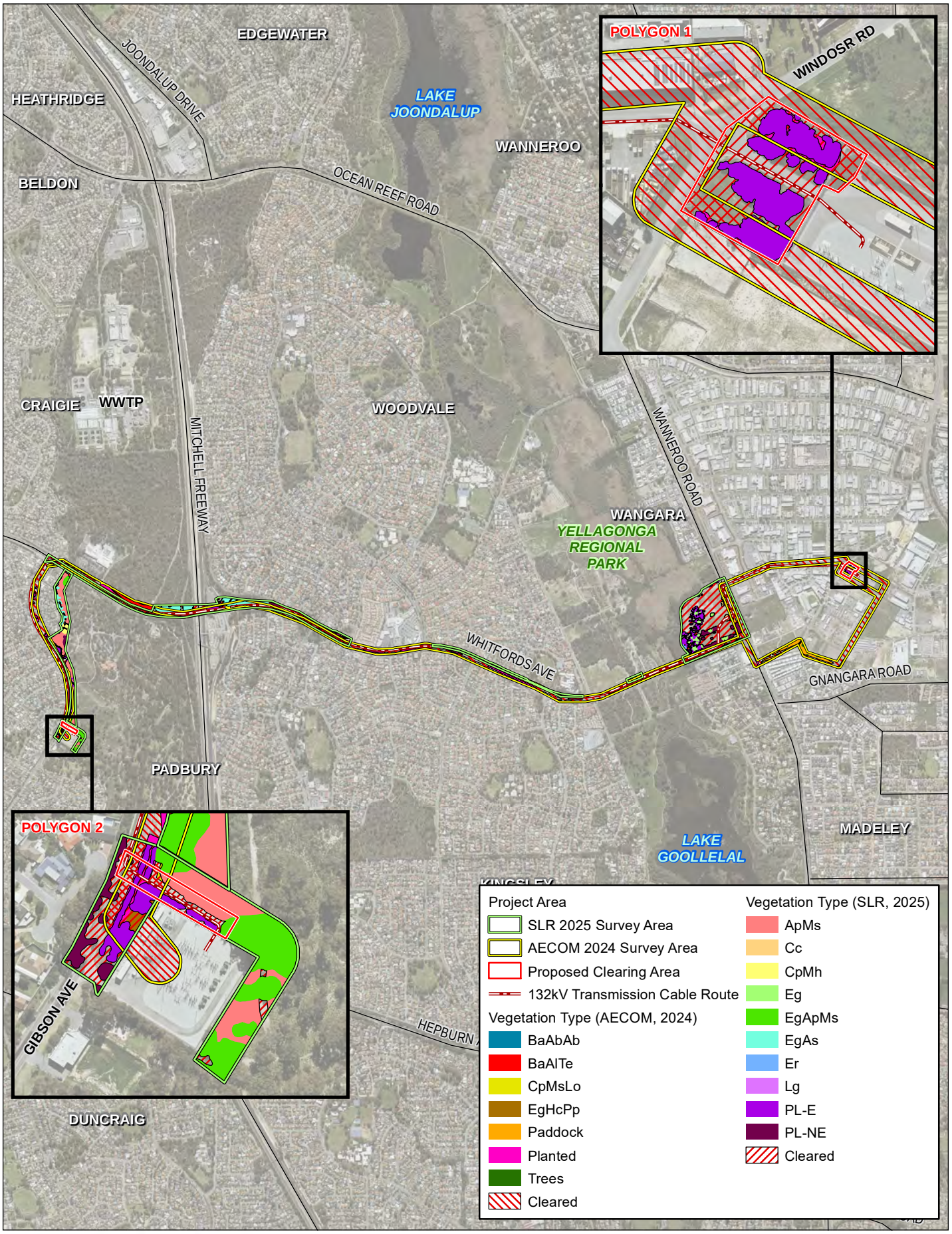
Padbury-Wangara 132kV Transmission Cable
Vegetation Clearing Desktop Report
/ Clearing Assessment Report

Project Area and Proposed Clearing Area
FIGURE 1



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Vegetation Types
FIGURE 2

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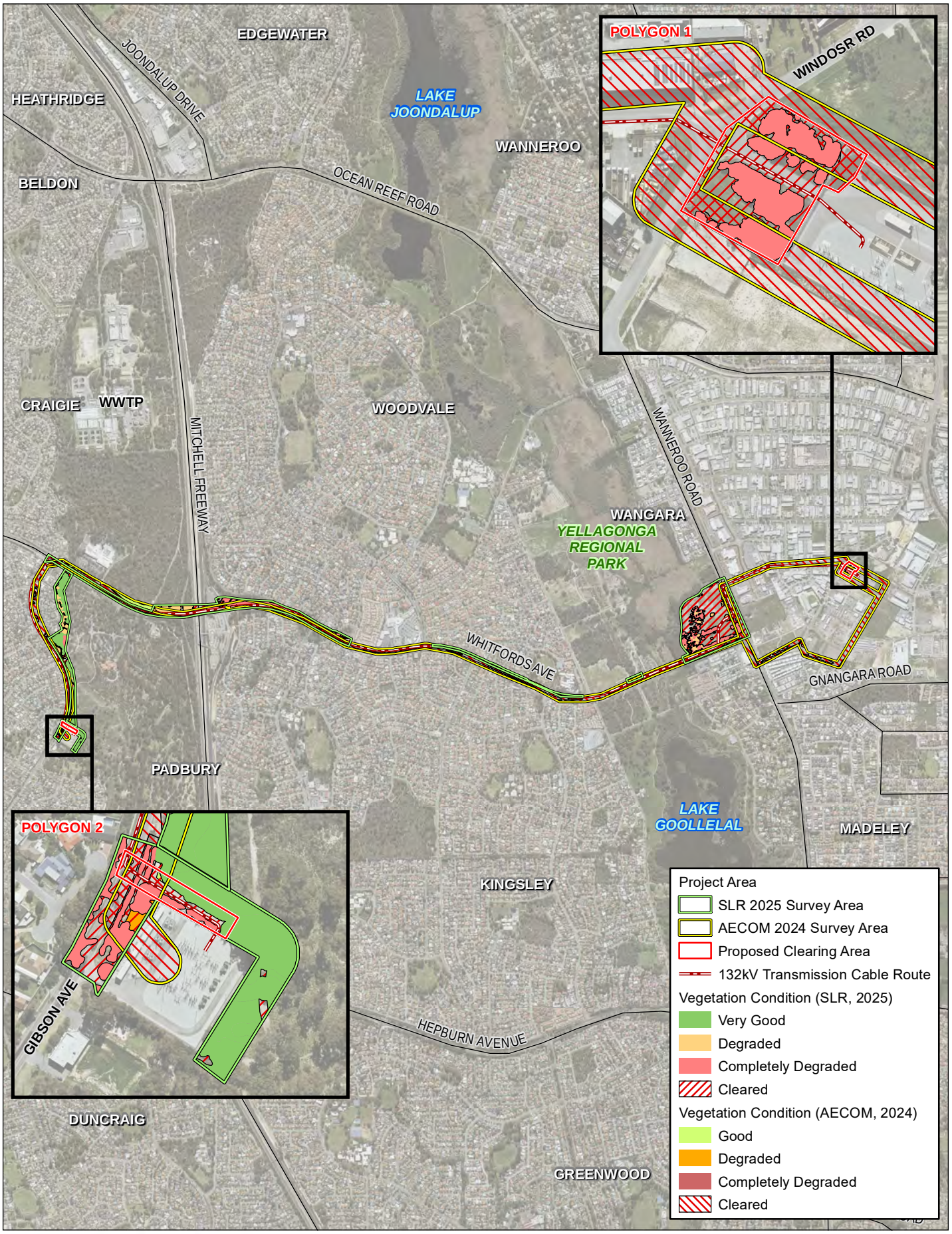

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Padbury-Wangara 132kV Transmission Cable
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Vegetation Condition
FIGURE 3

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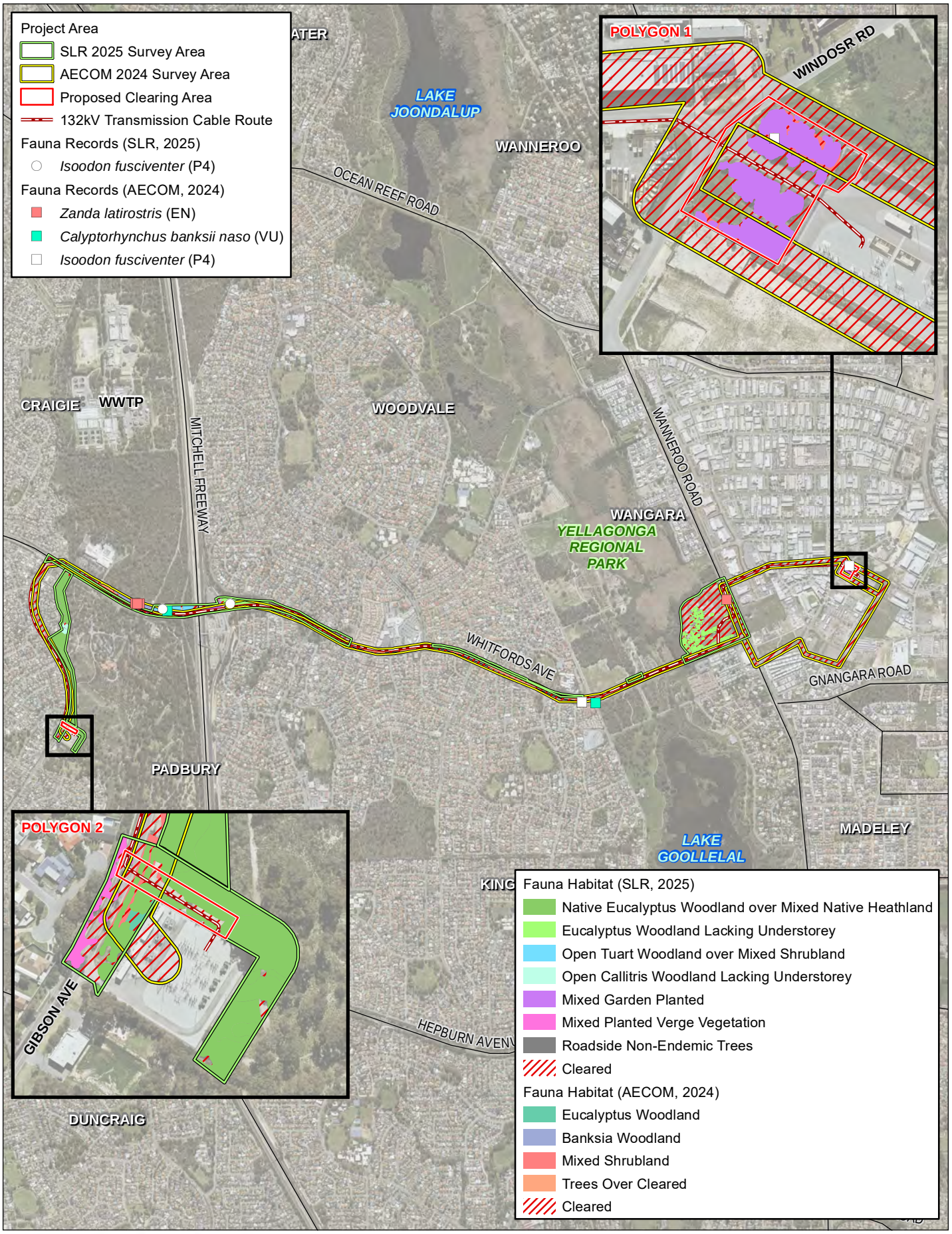

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Padbury-Wangara 132kV Transmission Cable
Vegetation Clearing Desktop Report / Clearing Assessment Report

Fauna Habitat and Significant Fauna Records
FIGURE 4

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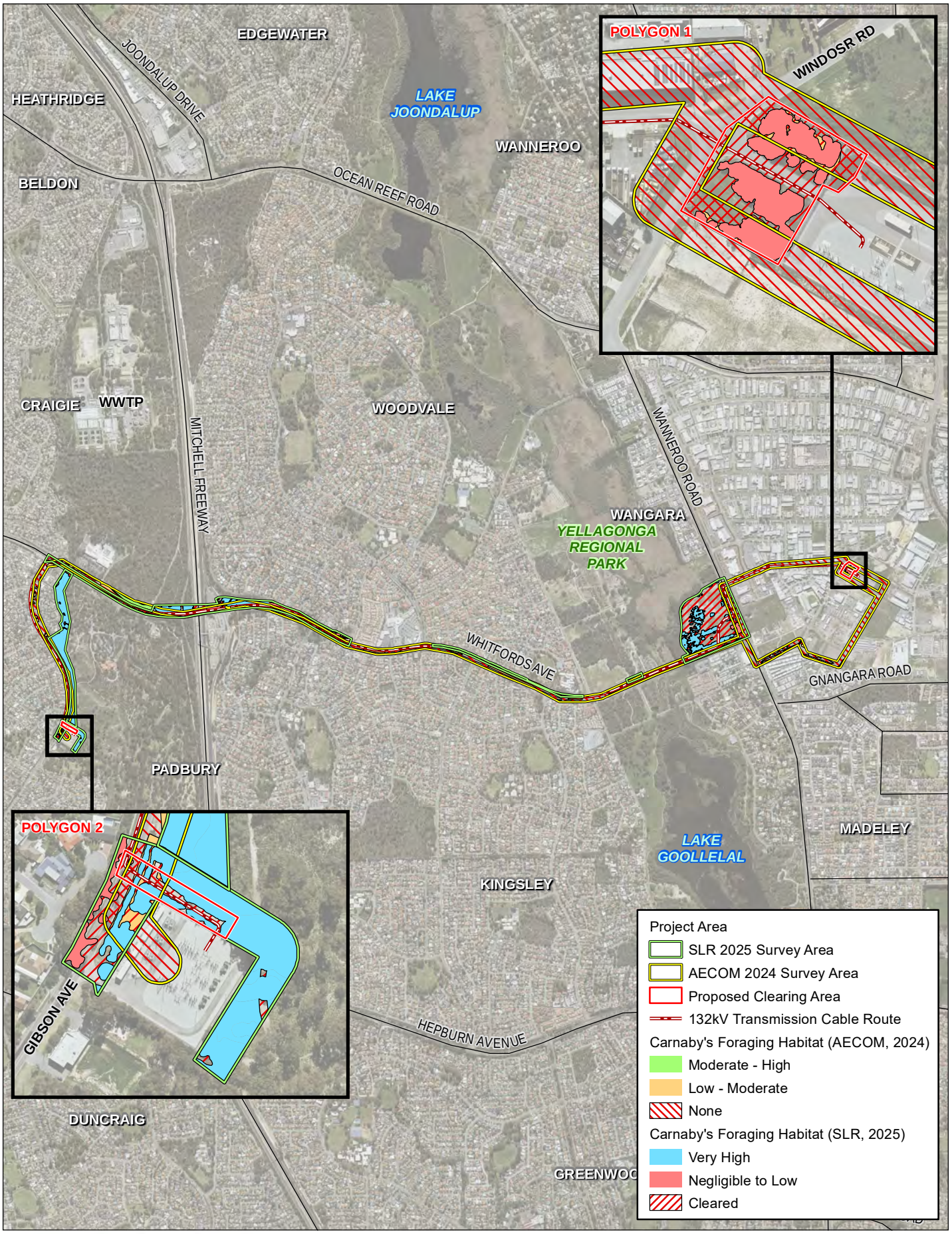

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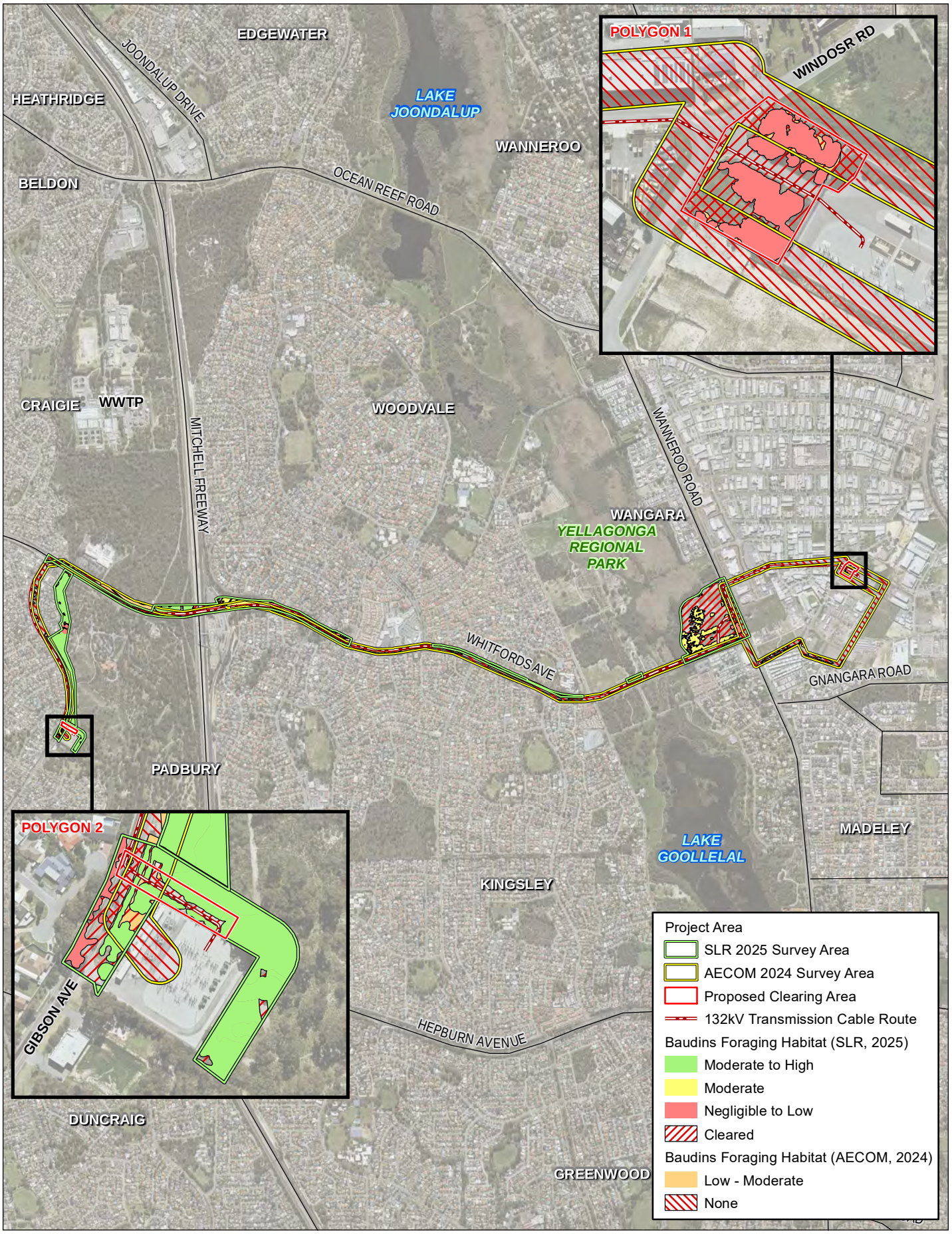
Padbury-Wangara 132kV Transmission Cable
Vegetation Clearing Desktop Report / Clearing Assessment Report

Black Cockatoo Foraging Habitat - Carnaby's
FIGURE 5A

C:\GIS\Jobs\360\675.073130.00002 - Padbury–Wangara 132kV Transmission Cable\Figures\675-073130-00002_F05a Black Cockatoo Foraging Habitat - Carnaby's_250515.mxd



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Padbury-Wangara 132kV Transmission Cable
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Black Cockatoo Foraging Habitat - Baudins
FIGURE 5B

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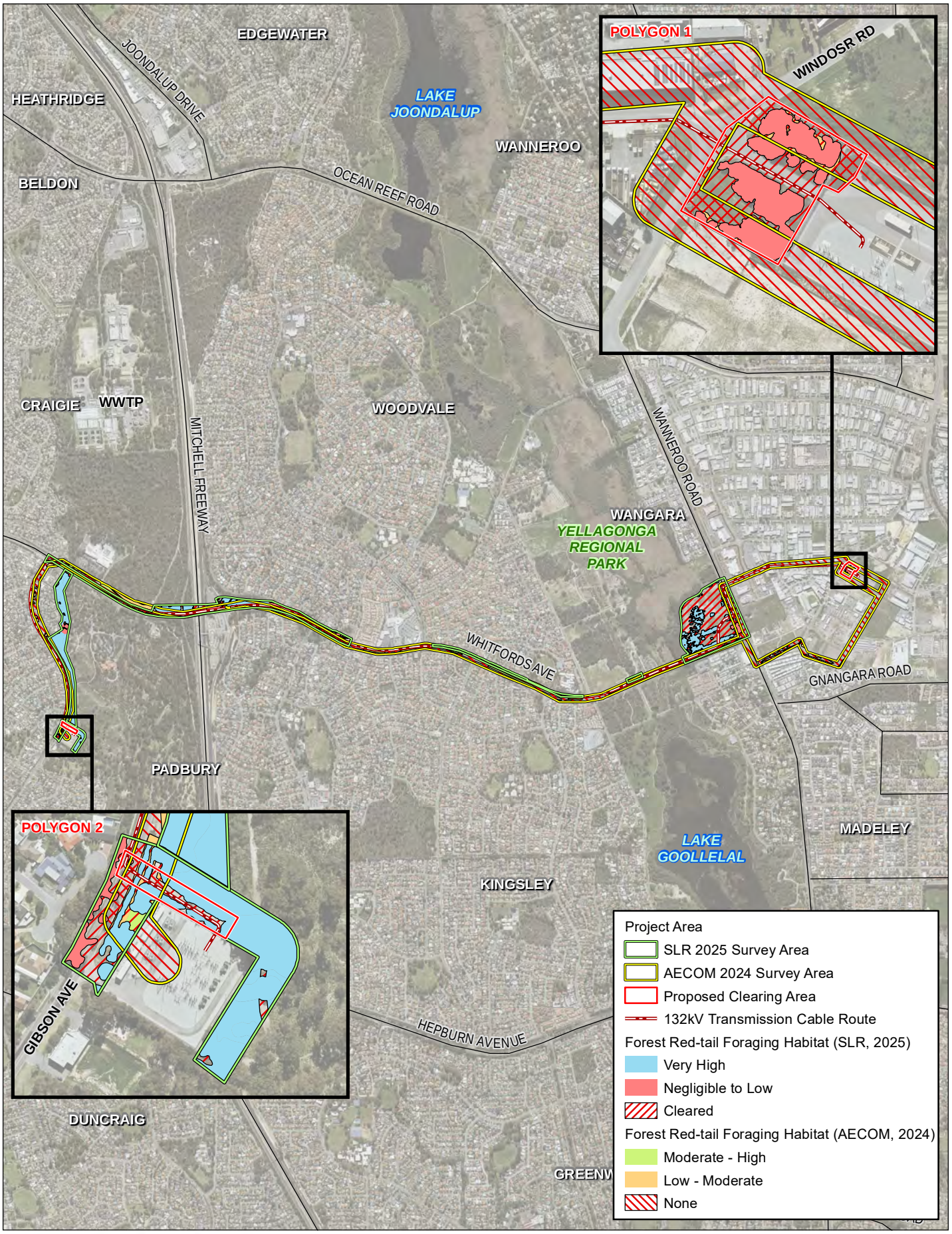

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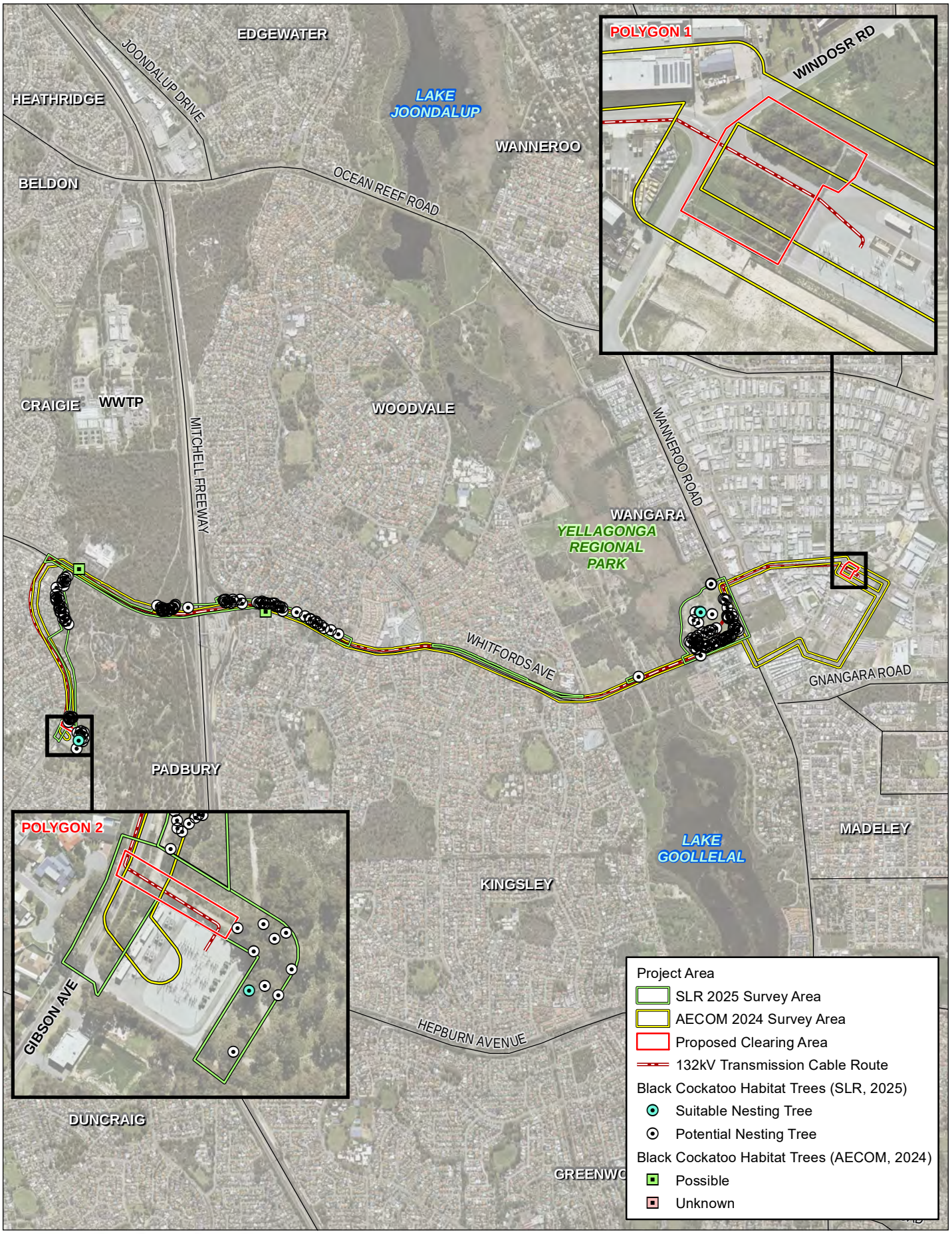
Padbury-Wangara 132kV Transmission Cable
Vegetation Clearing Desktop Report / Clearing Assessment Report

Black Cockatoo Foraging Habitat - Forest Red-tail
FIGURE 5C

C:\GIS\Jobs\360\675.073130.00002 - Padbury–Wangara 132kV Transmission Cable\Figures\675-073130-00002_F05c Black Cockatoo Foraging Habitat - Forest Red-tail_250515.mxd



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Black Cockatoo Habitat Trees
FIGURE 6

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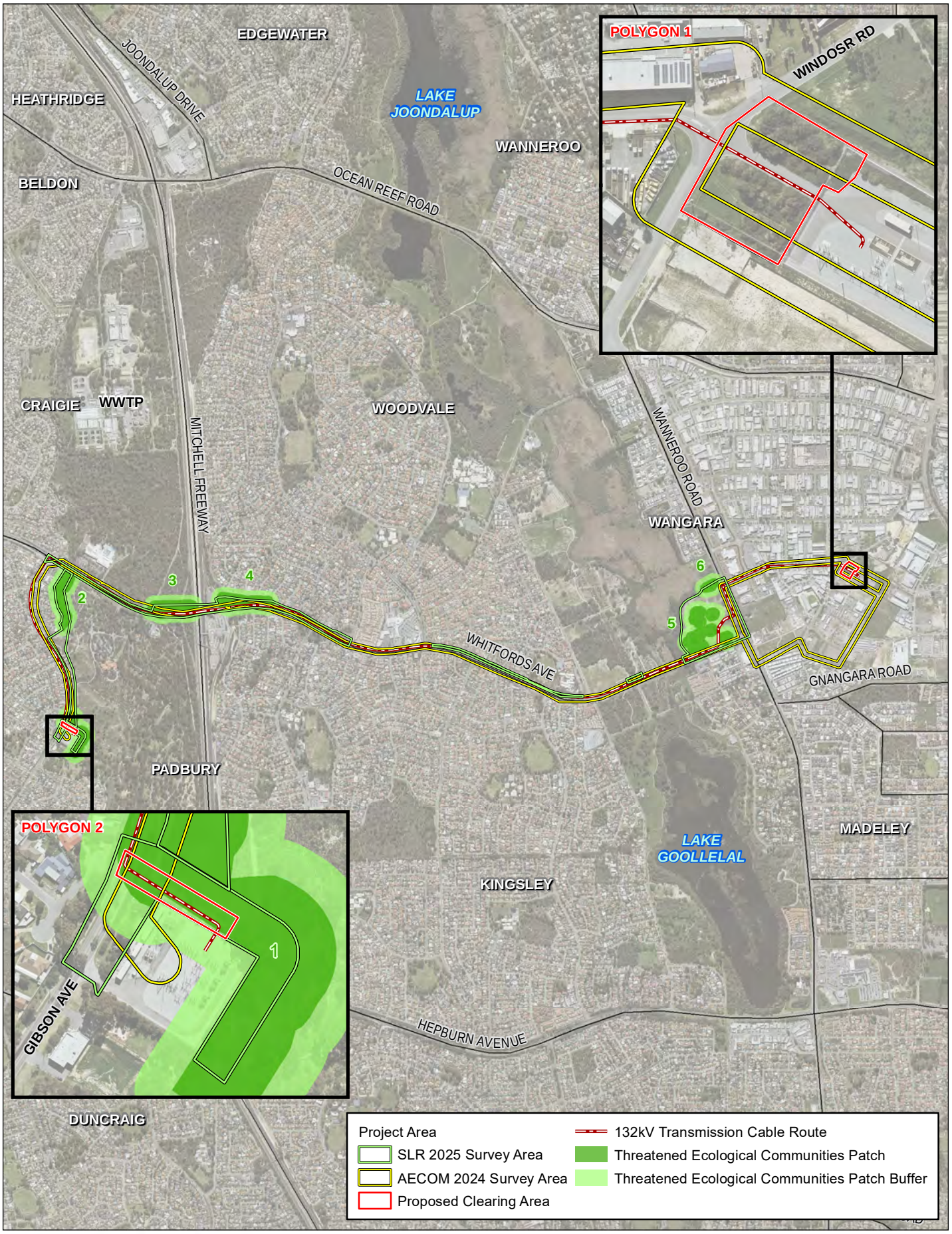

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Threatened Ecological Communities
FIGURE 7

C:\GIS\Jobs\360\675.073130.00002 - Padbury–Wangara 132kV Transmission Cable\Figures\675-073130-00002_F07 Threatened Ecological Communities_250515.mxd

3. Avoid, minimise and reduce extent and impact of clearing

Alternatives to clearing considered during the development of this project are outlined in Table 1:

Alternative to Clearing	Applicable	Discussion
Directional drilling of underground cables instead of open trenching	*Yes*	Where appropriate, e.g. to minimise impact between individual trees, directional drilling will be used to install the new cabling rather than open trenching.
Existing tracks are utilised where possible	*Yes*	Existing site access roads and tracks will be utilised to access the project site.
Utilising previously cleared areas where possible	*Yes*	The route is predominately within already cleared areas (along roads) with the exceptions of two areas required final connection into existing substations.
Consideration of alternative engineering and design options	*Yes*	Alternate routes and options have been considered but not preferred following design and consultation with other government stakeholders and constraints from other nearby infrastructure.
Other	*Yes*	Western Power has completed detailed planning studies in considering feasible options to migrate all the identified network limitations within the North Region over the medium to long term, and specifically the ability to address the immediate need to address the generation constraints. These studies include steady-state analysis as well as other technical assessments to determine the capacity of distinct options to adequately reduce the identified network risks. Alternatives to the project overall were considered, including a 'do nothing' scenario and reconfiguration elsewhere however the proposed option best met the deliverability, sustainability, risk mitigation, investment and prudence objectives.

Table 1: Alternatives to clearing

The following additional measures to avoid, minimise or reduce the impacts of clearing will be implemented:

- Western Power engaged AECOM (2024) and SLR (2025) to complete biological surveys including detailed flora and vegetation, targeted significant flora, basic terrestrial vertebrate fauna and black cockatoo habitat assessment to characterise the biological values of the survey area.
- Vehicle access will utilise existing access tracks to avoid clearing new access tracks.
- Cabling route alignment has been designed to avoid mature trees.

- Demarcate the clearing area prior to clearing.
- Implementation of a Vegetation Management Plan (Appendix B) which has been prepared in accordance with Condition 6 of CPS 1918/11.

4. Site context

4.1 Land Tenure (Cadastral Information)

Property:

- Freehold (various)
- Crown land (various)

Conservation Estates:

The Project Area does intersect one conservation estate entitled “Un-named Crown Freehold land – Represents Bush Forever Site 303”, this reserve covers 0.34 ha of the total Project Area.

Local Government:

The Project Area is located within two local government areas (LGAs), the City of Wanneroo and the City of Joondalup.

Other:

- Road reserves

4.2 Vegetation description

Spring biological surveys were completed by AECOM in 2023 within the Perth Metropolitan Region on the Swan Coastal Plain (AECOM, 2024). The survey, encompassing several projects was a single season spring survey of the five corridors across multiple days in October and November 2023, including a comprehensive desktop assessment, detailed flora and vegetation assessment and targeted flora searches. The survey was undertaken by experienced personnel during the ideal detection period for significant flora. A total of 31.26 ha was surveyed for the Padbury-Wangara Survey Area.

To supplement existing survey information, an additional biological survey was completed by SLR Consulting in 2024 to support the Padbury – Wangara Corridor (SLR, 2025). SLR Consulting (2025) completed a supplementary detailed flora, vegetation and, targeted significant flora survey in November 2024. The SLR Survey Area, covers approximately 29.3 ha and fully encompasses the Proposed Clearing Area (0.78 ha).

Figure 2a and 2b show the Project Area in relation to the 2023 and 2024 Survey Areas.

Results of the desktop assessment and biological surveys are summarised in Section 4.3.

Regional Vegetation

Beard et.al. (2013) mapping is used to determine the current extent of remnant vegetation remaining when compared to pre-European vegetation extent. Four vegetation associations intersect the Project Area. Representation of these vegetation associations at a local, regional and state level are shown in Table 1.

Table 1 Representation at the State, Regional and Local Level

Pre-European Vegetation Association	Scale	Pre-European extent (ha)	Current extent (ha)	Percent remaining	% Current Extent remaining in DBCA reserves (proportion of Current extent)
Vegetation Association No. 1007	**Statewide**	30,407.75	20,691.11	68.05	14.75
	IBRA Bioregion *Swan Coastal Plain*	30,109.89	20,679.62	68.68	14.75
	IBRA Sub-region *Perth (SWA2)*	30,109.89	20,679.62	68.68	14.75
	Local Government Authority *Cities of Padbury and Wangara*	2,760.85	221.65	8.03	0.00
Vegetation Association No. 6	**Statewide**	56,343.01	13,362.25	23.72	39.83
	IBRA Bioregion *Swan Coastal Plain*	56,343.01	13,362.25	23.72	39.83
	IBRA Sub-region *Perth (SWA2)*	56,343.01	13,362.25	23.72	39.83
	Local Government Authority *Cities of Padbury and Wangara*	2,294.47	326.68	14.24	9.30
Vegetation Association No. 37	**Statewide**	39,296.52	24,727.17	62.92	20.92
	IBRA Bioregion *Swan Coastal Plain*	15,617.85	5,404.74	34.61	40.96
	IBRA Sub-region *Perth (SWA2)*	14,018.45	4,784.19	34.13	44.87
	Local Government Authority *Cities of Padbury and Wangara*	113.79	58.78	51.65	38.37
Vegetation Association No. 998	**Statewide**	51,015.33	18,492.63	36.25	48.68
	IBRA Bioregion *Swan Coastal Plain*	50,867.50	18,492.32	36.35	48.68

Pre-European Vegetation Association	Scale	Pre-European extent (ha)	Current extent (ha)	Percent remaining	% Current Extent remaining in DBCA reserves (proportion of Current extent)
	IBRA Sub-region *Perth (SWA2)*	50,867.50	18,492.32	36.35	48.68
	Local Government Authority *Cities of Padbury and Wangara*	2,841.13	273.43	9.62	6.22

Vegetation complexes have been mapped by Heddle et. Al. (1980) and Mattiske and Havel (1980) for the Swan Coastal Plain area. Two vegetation complexes occur within the Project Area. Representation of these vegetation complexes at a state level is shown in Table 2.

Table 2 Representation of vegetation complexes with the Project Area at a State level

Heddle/Mattiske Vegetation Complex	Pre-European extent (ha)	Current extent (ha)	Percent remaining
Karrakatta Complex – Central and South (22)	53,080.99	12,467.20	23.49
Herdsman Complex (53)	36,022.17	25,199.19	69.95

Vegetation Types

A total of fifteen (15) vegetation types were mapped across the Project Area and are described in Table 3 (Figure 2a and 2b). Areas that have been previously cleared have not assigned a vegetation type due to lack of native vegetation.

Table 33 Vegetation Types Mapped in the Project Area

Vegetation Type	Description	Extent in the Project Area (ha)
AECOM Survey Area		
BaAbAb *Banksia attenuata* Woodland	*Banksia attenuata* and *Callitris preissii* woodland over *Acacia blakelyi, Melaleuca huegelii*, **Grevillea preissii* open shrubland over **Avena barbata, *Bromus diandrus* and *Austrostipa flavescens* grassland. Recorded on white-grey sand on a gentle slope.	0.15
BaAlTe *Banksia attenuata* Woodland	*Banksia attenuata* and *Banksia grandis* woodland over *Acacia lasiocarpa var. lasiocarpa, Xanthorrhoea preissii, Daviesia divaricata subsp. divaricate* open shrubland over *Tricoryne elatior*, **Euphorbia terracina* and *Conostylis setigera* forbland. Recorded on white sand on a flat landform.	0.58

Vegetation Type	Description	Extent in the Project Area (ha)
EgHcPp Tuart Woodland	*Eucalyptus gomphocephala*, *Corymbia calophylla* and *Melaleuca huegelii* open woodlands over *Hibbertia cuneiformis* and *Acacia saligna* sparse shrubland over *Poa porphyroclados*, **Ehrharta calycina* and **Avena barbata* grassland. Represents the Tuart Woodlands TEC. Recorded on brown sandy loam soils on a gentle slope.	1.12
CpMsLo *Callitris* Woodland	*Callitris preissii* low open woodland over *Melaleuca seriata, Acacia lasiocarpa var. sedifolia* and *Rhagodia baccata* sparse shrubland over **Lagurus ovatus, *Cynodon dactylon* and **Ehrharta calycina* open grassland. Recorded on white sand on a flat landform.	0.48
Trees	Scattered native species including but not limited to *Eucalyptus, Banksia, Acacia, Xanthorrhoea* and *Melaleuca* species. Recorded on a variety of soil types.	0.61
SLR Survey Area		
ApMs	*Acanthocarpus preissii* and *Melaleuca systena* Mid heathland over *Lomandra maritima* and *Desmocladus flexuosus* low sparse forbland. Dune slope or crest with grey sand over limestone.	2.5
EgApMs	*Eucalyptus gomphocephala* mid woodland over *Acanthocarpus preissii* and *Melaleuca systena* Mid heathland over *Lomandra maritima* and *Desmocladus flexuosus* low sparse forbland. Dune slope or swale with grey sand over limestone.	2.4
CpMh	*Callitris preissii* low open forest over *Melaleuca huegelii* low sparse shrubland over mixed weed species. Dune slope with grey sand, previously disturbed for infrastructure.	0.2
EgAs	*Eucalyptus gomphocephala* mid woodland over *Acacia saligna*, *Melaleuca nesophylla* (Planted) and *Melaleuca fulgens* (Planted) tall open shrubland over mixed garden and weed species. Crest and slopes along roadsides, some rehabilitation planting in patches.	2.4
Cc	Matures trees of *Corymbia calophylla* over mixed weed species. Grey sandy slopes and flats.	0.4
Eg	Mature trees of *Eucalyptus gomphocephala* over mixed weed species. Grey sandy slopes and flats.	0.5
Er	Mature trees of *Eucalyptus rudis* over mixed weed species. Sandy clay loam on the edge of Wallubuenup Swamp.	0.2
Lg	*Lepidosperma gladiatum* tall closed sedgeland. Dark grey sandy loam, seasonally inundated.	0.1
PL-E	Planted endemic tree and shrub species in rehabilitation, parkland or road verge. Sandy slopes and flats or sandy loam on the fringes of Wallubuenup Swamp.	2.6
PL-NE	Planted non-endemic tree and shrub species in parkland or road verge. Sandy slopes and flats.	2.7

Vegetation Condition

Figure 3a and 3b show the vegetation condition across the Project Area.

Vegetation condition in AECOM Survey Area ranged from Good condition to Completely Degraded (Table 4), with a high level of weed invasion present.

Vegetation condition in SLR Survey Area ranged from Very Good to Completed Degraded with the majority (20.8%) being in a Completely Degraded condition (Table 4). Evidence of disturbance was primarily associated with clearing, weeds and infrastructure.

Table 44 Vegetation Condition in the Project Area

Vegetation Condition	Area (ha) in the Project Area	
	AECOM survey area	SLR survey area
Very Good	-	3.2
Good	1.67	-
Degraded	0.63	3.1
Completely Degraded	0.65	6.1
Cleared	29.12	16.9

4.3 Summary of results of surveys

Spring biological surveys have been completed across the project area in 2023 and 2024 (AECOM, 2024 and SLR, 2025). Numerous other biological surveys have been previously undertaken within this corridor. These previous reports have been presented in AECOM 2024 as a compilation of existing data that was verified during the Spring 2023 survey.

The key findings of the survey have been summarised below:

- 15 native vegetation types were recorded across the Project Area (Figure 2a and 2b)
- Vegetation condition ranged from Good to Completely Degraded (Figure 2a and 3b)
- Vegetation representing a Threatened Ecological Community (TEC) or Priority Ecological Community (Figure 7a and 7b)
  - One patch of Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain Threatened Ecological Community (Tuart Woodlands TEC) listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and as Priority 3 by Department of Biodiversity, Conservation and Attractions (DBCA). The patch extends for 0.54 ha.
  - Within the SLR survey area five (5) patches of EgAs is considered representative of the Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC.
  - Vegetation type CpMh was determined to have an affiliation with *Callitris preissii* (or Melaleuca lanceolata) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described in Gibson et al. 1994) which is listed as Critically Endangered by the State and is not listed under the EPBC Act.

- Vegetation types ApMs and EgApMs are analogous to Coastal shrublands on shallow sands ('floristic community type 29a') Priority 3 ecological community. FCT SCP 29a is listed as a Priority 3 community by the State is not listed under the EPBC Act.
- Two patches of Banksia Woodlands were assessed against the key diagnostic criteria outlined in the DEE (2016) Conservation Advice by AECOM, neither of the patches met the diagnostic criteria to be considered representative of the federally protected ecological community (AECOM, 2024).

- Significant flora
    - No significant flora listed under the EPBC Act or the *Biodiversity Conservation Act 2016* (BC Act) or by DBCA were recorded during the AECOM survey.
    - One Threatened flora taxa, *Grevillea curviloba*, pursuant to the EPBC Act 1999 and/or gazetted as Threatened/Declared Rare Flora pursuant to the BC Act 2016 were recorded during the SLR survey, however it had been planted as part of rehabilitation is not considered to be conservation significant
    - One Priority 3 taxa, *Grevillea olivacea*, was recorded during the SLR survey however it had also been planted in rehabilitation and not considered conservation significant
    - Post survey, no taxa were considered to have a high likelihood of occurrence, however four taxa are considered to have a medium likelihood of occurrence*: Caladenia huegelii* (T), *Marianthus paralius* (T), *Baekea* sp. Limestone (N. Gibson & M.N. Lyons 1425) (P1), and *Conostylis bracteata* (P3).
- Fauna habitat (Figure 4a and 4b)
    - Four fauna habitats representing native vegetation were mapped in the AECOM survey area, including Banksia Woodland, Eucalyptus Woodland, Mixed Shrubland and Trees Over Cleared. The Eucalyptus Woodland provides suitable roosting, foraging and breeding habitat for Black Cockatoo species.
    - Seven fauna habitats (excluding cleared areas) were identified and mapped within the SLR Survey Area including Native Eucalyptus Woodland over Mixed Native Heathland, Eucalyptus Woodland with Cleared Understorey, Open Tuart Woodland over Mixed Shrubland, Roadside Non-endemic Trees, Mixed Planted Verge Vegetation, Mixed Garden Planted and Open Callitris Forest Cleared Understorey. With Open Tuart Woodland over Mixed Shrubland and Eucalyptus Woodland Cleared Understorey providing the most value to significant fauna.
- Three conservation significant fauna species were recorded during the surveys, including two bird species and one mammal species (Figure 4a and 4b):
    - Carnaby's Cockatoo (*Zanda latirostris*) listed as Endangered under the EPBC Act and the Biodiversity Conservation Act 2016 (BC Act)
    - Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) listed as Vulnerable under the EPBC Act and BC Act
    - Quenda (*Isoodon fusciventer*) listed as Priority 4 by DBCA

- No black cockatoo breeding and foraging evidence was documented during the survey. Two trees containing potentially suitable hollows were recorded within the Survey Area showed no sign of black cockatoo.
- Suitable foraging habitat was present within the Native Eucalyptus Woodland over Mixed Native Heathland, Eucalyptus Woodland Cleared Understorey, Open Tuart Woodland over Mixed Shrubland, and Open *Callitris* Forest Cleared Understorey fauna habitats (Figure 5a, 5b, 5c, 5d, 5e, 5f). Foraging habitat score ranged between Very High to Negligible for three black cockatoo species (AECOM 2024;SLR 2025).

A copy of the survey executive summary and conclusion can be found in Appendix C.

5. Spatial assessment (SPIDA View)

Western Power's online risk GIS database was analysed, and the following layers are indicated as having the potential for clearing impacts within a local area search radius of 5 km.

DBCA managed tenure	☒	Bush Forever	☒	CAWS Act Area	☐	Native Vegetation Clearing Regs ESAs	☒
Conservation listed fauna	☒	Conservation listed flora	☒	Western Power ESA sites	☒	Native vegetation remaining	☒
Threatened ecological communities	☒	Acid Sulfate Soils	☒	PDWSA	☒	Ramsar or Important Wetlands	☒
Geomorphic or other mapped wetlands	☒	Disease Risk Areas	☐	Erosion risk	☐	Offset areas	☒
Watercourses	☒	Land Degradation	☐		☐		
Other ☐ Details:							

6. Assessment of vegetation clearing impacts

The proposed clearing has been assessed against each of the clearing principles in accordance with the Department of Water and Environmental Regulation guideline "*A guide to the assessment of applications to clear native vegetation under Part V Division 2 of the Environment Protection Act 1986"* (DER, 2014).

Clearing permit principles full assessment	
a) Native vegetation should not be cleared if it comprises a high level of biodiversity.	**Is at variance**

Flora and Vegetation

A comprehensive desktop assessment of the PMST, DBCA's NatureMap database, and the DBCA Threatened and Priority Database identified 67 significant flora taxa occurring within 10 km of the Survey Area, 14 of which were considered to have a high likelihood of occurring within the Survey Area.

Section 4.2 and 4.3 provides a summary of the survey results. A total of 0.4 ha of native vegetation is proposed for clearing in the 0.78 ha Proposed Clearing Area of which:

- 0.06 ha is in Very Good condition
- 0.72 ha either Completed Degraded or cleared.

Proposed clearing includes a total of 0.18 ha of Tuart Woodlands and forest of the Swan Coastal Plan TEC (Priority 3 listed State PEC) located within the Proposed Clearing Area, assessed further in Principle d, all of which was in 'High' condition (rated as per DEE (2019)). The 0.18 ha that will be impacted is approximately 8% of Patch 1 recorded by SLR (2025) and is located within the wider known patches (Unique ID: 125491, 125492, 126641 and 126642) returned in the DBCA database search as part of the desktop assessment.

No Threatened flora species pursuant to the EPBC Act and/or gazetted as Threatened/Declared Rare Flora pursuant to the BC Act were recorded within the AECOM survey area. One Threatened *Grevillea curviloba* was recorded within the SLR Survey Area and does not fall within the Proposed Clearing Area or along the Transmission Line.

One Priority 4 taxon, *Grevillea olivacea* was recorded in the SLR Survey Area within the PL-E vegetation type (native vegetation). This record also falls within the Proposed Clearing Area (Polygon 1) and will be impacted as part of the clearing of native vegetation.

As seen in Section 4.3, SLR's post survey assessment considered two Threatened flora taxa and two Priority flora taxa as having a medium likelihood of occurrence: namely *Caladenia huegelii* (T), *Marianthus paralius* (T), *Baekea* sp. Limestone (N. Gibson & M.N. Lyons 1425) (P1), and *Conostylis bracteata* (P3). They were rated as such because they are ephemeral species and the field survey was conducted late in the season (November), and although they were searched for in their preferred habitats, flowering may have been finished making them difficult to identify in-situ (SLR 2025).

Proposed clearing does not include the clearing of any known individual plants of conservation significance recorded within the Proposed Clearing Area, however the four significant flora taxa rated medium in the likelihood of occurrence post survey, retain the potential to be present.

Fauna including Black Cockatoo Habitat

Desktop assessment of the PMST, DBCA NatureMap database and Threatened and Priority Fauna database search identified 161 significant fauna as potentially occurring within 20 km of the Survey Area. The SLR fauna survey recorded a total of 21 fauna taxa, including 20 birds, two mammals, and one reptile. The AECOM fauna survey recorded 15 fauna taxa comprising 11 birds, three mammal and one reptile.

The proposal will result in the clearing of up to:

- 0.28 ha of 'Negligible to Low' quality foraging habitat
- 0.12 ha of 'Very High' quality foraging habitat

- No potential habitat trees.

The DER (2014) notes that the presence of significant flora, significant fauna or priority ecological communities is indicative of a higher level of biological diversity than might typically be expected in an area. Given the presence of Tuart Woodland and Black Cockatoo foraging habitat, the native vegetation in the Project Area is generally considered to comprise a high level of biodiversity. Given the presence of significant species and the generally good condition of the vegetation, **it is considered the proposed clearing is at variance with this Principle**.

In accordance with Condition 10(a) of the CPS 1918-11, an offset proposal should be considered for this Principle.

b) Native vegetation should not be cleared if it comprises whole or part of, or is necessary for the maintenance of, a significant habitat for fauna.	**May be at variance**

Section 4.3 provides a summary of the survey results. Seven fauna habitats (excluding 16.5 ha of already cleared areas) were identified and mapped within the SLR Survey Area, three of which occur within the Proposed Clearing Area (Figure 4a and 4b). The proposal will result in the clearing of up to:

- 0.12 ha Native *Eucalyptus* Woodland over Mixed Native Heathland
- 0.001 ha Mixed Planted Verge Vegetation
- 0.28 ha Mixed Garden Planted.

Of the three fauna habitats with clearing proposed, the Native *Eucalyptus* Woodland over Mixed Native Heathland and Mixed Planted verge vegetation and Mixed Garden Planted may be used by black cockatoo species for foraging. The Native *Eucalyptus* Woodland over Mixed Native Heathland may also be used by for roosting by Black Cockatoo species and foraging by Quenda. Surveys have recorded foraging evidence for Quenda within the AECOM survey area and Proposed Clearing Area (AECOM, 2024). Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo have been recorded in the Project Area (AECOM, 2024; SLR, 2025).

A targeted Black Cockatoo survey identified 12.8 ha of black cockatoo foraging habitat within the SLR survey area (Figure 5a, 5b, 5c, 5d, 5e and 5f), the majority of which was 'Very High' quality (9.2 ha). A total of 169 potential breeding trees were recorded during the survey, of which there were two with hollows suitable for nesting (Figure 6a and 6b). A total of 0.4 ha of Black Cockatoo foraging habitat is proposed for clearing in the 0.78 ha Proposed Clearing Area of which:

- 0.12 ha of Very High-quality Black Cockatoo foraging habitat and 0.28 ha of Low-quality foraging habitat
- No potential habitat trees.

The DER (2014) notes that clearing of native vegetation that is habitat for specially protected or Threatened Fauna or provides significant habitat for meta-populations is likely to be at variance with this Principle. Although the Project has been designed to minimise impacts to fauna habitat, clearing of Black Cockatoo foraging habitat that is utilised by listed Threatened species is required. It is noted that the majority of the Black Cockatoo foraging habitat to be cleared is Low quality which reduces the significance of the habitat for the Black Cockatoo. It is, therefore considered that, thus the **proposed clearing may be at variance with this Principle**.

c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.	**Not likely to be at variance**

No Threatened flora species pursuant to the EPBC Act and/or gazetted as Threatened/Declared Rare Flora pursuant to the BC Act were recorded within the AECOM survey area. One Threatened *Grevillea curviloba* was recorded within the SLR Survey Area and does not fall within the Proposed Clearing Area or along the Transmission Line.

As seen in Section 4.3, SLR's post survey assessment considered two Threatened flora taxa as having a medium likelihood of occurrence: namely *Caladenia huegelii* and *Marianthus paralius*. They were rated as such because they are ephemeral species and the field survey was conducted late in the season (November) and although they were searched for in their preferred habitats, flowering may have been finished making them difficult to identify in-situ (SLR 2025).

The Threatened flora species recorded as part of SLR's survey, *Grevillea curviloba*, was planted and found within the rehabilitation area. *Grevillea curviloba* is widely known as a horticultural species and is far outside its natural range and for this reason it was not considered significant flora in the context of the SLR (2025) report. Due to the aforementioned reason and the record not occurring within the Proposed Clearing Area, **this Principle is not likely to**

be at variance. However, consideration should be made in relation to the two Threatened flora taxa rated medium in their likelihood of occurrence post survey, as they retain the potential to be present.

d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.	**Is at variance**

Based on the Desktop assessment the Tuart (Eucalyptus gomphocephala) woodlands and forests of the Swan Coastal Plain (Tuart WL SCP TEC) ecological community was expected to occur within the Survey Area, as previously identified by DBCA database searches. Vegetation type EgAs was identified as potentially being analogous to the Tuart WL SCP TEC. Three patches were delineated within this vegetation type based on the distance between Tuart trees, with trees having a gap of 60 meters or less between their canopies considered part of the same patch. Additionally, three more patches were identified within the Survey Area based on the presence of Tuarts. Tuarts within 500m of the Survey Area boundary was also mapped based on aerial imagery to demonstrate the potential extent of the Tuart Woodland as per the conservation advice (DEE, 2019).

The patches were assessed against key diagnostic criteria, with patches 1-5 determined to be of sufficient size to be evaluated against biotic thresholds and Patch 6 failing to meet the diagnostic criteria. After comparison with the biotic thresholds, Patches 1-3 were determined to be part of the Tuart WL SCP TEC, while Patches 4 and 5 did not meet the thresholds and are not considered part of the TEC.

Inclusive of the required 30m buffer, Patch 1 covers 2.3 ha, with 1.2 ha within the Survey Area; Patch 2 covers 2.6 ha, with 1.9 ha within the Survey Area; and Patch 3 covers 3.0 ha, with 2.0 ha within the Survey Area.

The total area of vegetation considered representative of the Tuart WL SCP TEC within the Survey Area is 12.3 ha (29.3%) (Figure 7a and 7b). The Proposal will result in the clearing of 0.18 ha of Tuart TEC. This area is associated with Patch 1 within the Proposed Clearing Area, however based of aerial imagery and buffers no Tuart trees are expected to be impacted within the Proposed Clearing Area and therefore the clearing is not expected to reduce the Patch size of Tuart TEC within this location.

Along the cable alignment, it is anticipated that Patch 3 will be intersected by the project activities, however the cabling has been designed to avoid all individual Tuart trees including the associated root systems in this location, there is not expected to be an impact this Tuart Patch.

With the clearing impact of 0.18 ha of Tuart TEC in Polygon 2, this Principle is at variance.

In accordance with Condition 10(a) of the CPS 1918-11, an offset proposal should be considered for this Principle.

e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	**Not at variance**

The National Objectives and Targets for Biodiversity Conservation 2001-2005 include a target to have clearing controls in place that prevent the clearance of ecological communities with a pre-European extent below 30% (Commonwealth of Australia, 2001).

- The Proposed Clearing Area occurs within a defined constrained area and therefore has a modified objective to retain at least 10% of pre-clearing extents. Vegetation associated numbers 1007, 6, 37 and 998 have respective representation of 68.68%, 23.72%, 34.61% and 36.35% across the Swan Coastal Plain bioregion.
- The vegetation complex 'Karrakatta Complex – Central and South' has a 23.49% representation and 'Herdsman Complex' has a 69.95% representation across the Swan Coastal Plain bioregion.

Extensive areas of intact native vegetation adjoin the Project Area.

Considering that the representation of the vegetation system and complex, the proximity to similar vegetation immediately adjacent the Project Area, the vegetation in the Proposed Clearing Area is not considered to form part of a significant ecological linkage and the proposed clearing will not bring the pre-European vegetation representation below 10% and therefore **is not at variance with this Principle**.

f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.	**Not at variance**

The Hydrographic features that intersect or occur in the vicinity of the Project Area are Wallubuenup Swamp, Lake Goollelal, Beenyup Swamp and Lake Joondalup.

Clearing permit principles full assessment
The Project Area is immediately adjacent to Wallubuenup Swamp which is also a mapped Conservation Category Geomorphic wetland (UFI 15458) (SLR, 2025). DBCA maintained dataset for wetlands of the Swan Coastal Plain shows the mapped boundary of this geomorphic wetland intersecting Whitfords Avenue. Vegetation mapping completed by AECOM and SLR both show the area the transmission cable that overlaps the mapped wetland as 'Cleared' (road) with the adjacent roadside vegetation mapped by AECOM as 'Grassland with occasional native tree/shrub' (AECOM 2024). None of the vegetation types mapped within the Project Area that overlap UFI 15458 are associated with wetlands. The vegetation type Er (Mature trees of *Eucalyptus rudis* over mixed weed species) mapped as part of SLR's vegetation units fringes the Wallubuenup Swamp. This vegetation type makes up 0.8% of the Survey area and is the only vegetation associated with wetlands. The Proposed Clearing Area does not intersect any wetlands or watercourses and the vegetation types that have been mapped in the Proposed Clearing Area are not associated with wetlands. Therefore, **this Principle is not at variance.**

g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	**Not likely to be at variance**

The then Department of Environmental Regulation (DER) (now DWER) defines land degradation as including the following (DER, 2014):

- The clearing of vegetation
- Decline in vegetation condition (including spread of weeds)
- Soil erosion and soil acidity caused by wind and water erosion due to vegetation clearing
- Salinity
- Waterlogging/ flooding.

Soil erosion is generally caused by insufficient vegetation cover to protect soils from high intensity winds and rainfall (DER, 2014).

Across the clearing area, vegetation condition ranges from Very Good to Completed Degraded with the majority (20.8%) being in a Completely Degraded condition.

The Project Area is situated across two soil landscape systems, the Spearwood System and the Quindalup System. The Spearwood System is defined by sand dunes and plains on yellow deep sands, pale deep sands and yellow/brown shallow sands. The Quindalup System is defined by Coastal dunes of the Swan Coastal Plain, with calcareous deep sands and yellow sands with coastal scrub (DPIRD, 2025). A Majority of the Project Area is within the Spearwood System, including Polygon 1, with Polygon 2 occurring within the Quindalup System.

Elevation ranges from 12 mAHD in the western end to 68 mAHD on the far eastern end of the Project Area. Within the Proposed Clearing Areas: Polygon 1 ranges on the higher end from 60 to 68 mAHD, sloping to the south, while and Polygon 2 is relatively flat ranging from 32 to 34 mAHD (Google Earth Pro, 2025).

Risk	
Wind Erosion	50-70% of map unit has a high to extreme wind erosion risk (H1) >70% of map unit has a high to extreme wind erosion risk (H2) <3% of map unit has a high to extreme wind erosion risk (L1) 3-10% of map unit has a high to extreme wind erosion risk (L2)
Water Erosion	<3% of map unit has a high to extreme water erosion risk (L1) 3-10% of map unit has a high to extreme water erosion risk (L2) 10-30% of map unit has a high to extreme water erosion risk (M1)
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline (L1)
Flooding	<3% of map unit has a moderate to high flood risk (L1)

Clearing permit principles full assessment	
Waterlogging	<3% of map unit has a moderate to very high waterlogging risk (L1) >70% of map unit has a high water repellence risk (H2)
(DPIRD, 2023a, 2023b, 2023c, 2023d and 2023e)	

DPIRD land quality mapping indicates the Proposed Clearing Area has a Low to High risk of wind erosion, with Polygon 1 occurring within an area mapped as H2 and Polygon 2 occurring within an area mapped as L2 (see above table). The cable alignment occurs predominantly in an area of High risk of wind erosion (H2). The entire Project Area (including cable alignment) and the Proposed Clearing Area occurs within an area of Low flood risk (L1) and Low salinity risk (L1).

Mapping indicates that the Project Area has a Low to Moderate risk of water erosion, with the majority of the Project Area mapped as Low (L1 and L2) and a small area of Moderate intersecting the western end (M1). The Proposed Clearing Area occurs in Low with Polygon 1 mapped as L1 and Polygon 2 mapped as L2. The majority of the Project Area and the entire Proposed Clearing Area fall within an are mapped as Low risk of waterlogging (L1), with the intersection of the Project Area (and cable alignment) mapped as High (H2) adjacent to Yellagonga Regional Park.

Clearing is restricted to the Proposed Clearing Area (Polygon 1 and Polygon 2). Due to the size of the area being cleared and the Low risk of flooding, salinity, water erosion and waterlogging, the overall risk of appreciable land degradation as a result of the proposed clearing is reduced. Therefore, **this Principle is not likely to be at variance**.

h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	**Not at variance**

Environmental values of conservation areas are largely impacted by habitat fragmentation, when core habitat reserves are isolated from one another by human land uses (DER, 2014). Native vegetation near conservation reserves improves the conservation values of the reserve by buffering the reserve form edge effects and increasing biological diversity (DER, 2014).

The Project Area intersects the following conservation areas and ESAs:

- Yellagonga Regional Park, intersects the eastern polygons of the SLR Survey Area
- Unnamed freehold, vested under the CALM Act 1984, intersects the western polygon of the SLR Survey Area
- Unnamed ESA 19510, intersects the eastern polygon of the SLR Survey Area
- Unnamed ESA 19219, intersects the western polygon of the SLR Survey Area.

The nearest Bush Forever Sites are listed below:

- Whitfords Ave Bushland (Site 303), intersects the western polygons of the SLR Survey Area
- Yellagonga Regional Park (Site 299), intersects the eastern polygons of the SLR Survey Area.

The Project Area is located within the existing disturbance associated with Whitfords Avenue, thus implementation of the Project will not fragment the vegetation associated with the Yellagonga Regional Park or Whitfords Ave Bushland.

A Vegetation Management Plan will be implemented during clearing and construction to minimise potential for the Project to impact on environmental values.

The Proposed Clearing Area does not intersect any of the above-mentioned conservation areas, ESAs and Bush Forever sites, therefore **this Principle is not at variance**.

i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	**Not likely to be at variance**

The Project Area is not located within a *Country Area Water Supply Act 1947* area (DWER, 2018), but it does occur (including Polygon 2 of the Proposed Clearing Area) within a Public Drinking Water Source Area (PDWSA) ('Protected-P3': Perth Coastal and Gwelup Underground Water Pollution Control Area) (DWER 2025).

Clearing permit principles full assessment	
The Hydrographic features that intersect or occur in the vicinity of the Survey Area are Wallubuenup Swamp, Lake Goollelal, Beenyup Swamp and Lake Joondalup. The Project Area is immediately adjacent to Wallubuenup Swamp which is also a known Geomorphic wetland (SLR, 2025). The vegetation type Er (Mature trees of *Eucalyptus rudis* over mixed weed species) mapped as part of SLR's vegetation units fringes the Wallubuenup Swamp. This vegetation type makes up 0.8% of the Survey area and is the only vegetation associated with wetlands. There are no surface water flows intersecting the Proposed Clearing Area and the site visit in 2023 (AECOM, 2024) and 2024 (SLR, 2025) did not identify any native vegetation in, or in association, an environment associated with a watercourse or wetland within either Polygon 1 or Polygon 2. For the above reasons, this Principle is not likely at variance.	
j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	**Not at variance**
The Hydrographic features that intersect or occur in the vicinity of the Survey Area are Wallubuenup Swamp, Lake Goollelal, Beenyup Swamp and Lake Joondalup. The Project Area is immediately adjacent to Wallubuenup Swamp which is also a known Geomorphic wetland (SLR, 2025). The vegetation type Er (Mature trees of *Eucalyptus rudis* over mixed weed species) mapped as part of SLR's vegetation units fringes the Wallubuenup Swamp. This vegetation type makes up 0.8% of the Survey area and is the only vegetation associated with wetland but does not fall within the Proposed Clearing Area. Elevation ranges from 12 mAHD in the western end to 68 mAHD on the far eastern end of the Project Area. Within the Proposed Clearing Areas: Polygon 1 ranges on the higher end from 60 to 68 mAHD, sloping to the south, while and Polygon 2 is relatively flat ranging from 32 to 34 mAHD (Google Earth Pro, 2025). Given the Project Area has not been identified as having a significant risk or flooding, waterlogging or erosion from soil landscape quality analysis. There are no surface water flows intersecting the Proposed Clearing Area and the site visit in 2023 (AECOM, 2024) and 2024 (SLR, 2025) did not identify any native vegetation in, or in association, an environment associated with a watercourse or wetland within either Polygon 1 or Polygon 2. Therefore, **this Principle is not at variance.**	

7. Planning instrument or other relevant matters

The Project Area and inherent Proposed Clearing Areas do not intersect any registered Aboriginal Heritage Sites (DPLH, 2025).

Yellagonga Regional Park intersects the Project Area in the eastern section with an Unnamed freehold land, vested under the CALM Act 1984, intersecting the western section of the Project Area. None of which intersect the Proposed Clearing Area.

A post survey assessment into the likelihood of occurrence of significant flora taxa considered two Threatened flora taxa as having a medium likelihood of occurrence: namely *Caladenia huegelii* and *Marianthus paralius*. Although not recorded, they retain the potential to be present as they are ephemeral species and the timing of the field survey was completed late in the season when flowering may have been finished making them difficult to identify in-situ. Considerations should be made in relation to their potential presence and a Threatened Flora Authorisation obtained prior to commencing clearing to take or disturb flora protected under the BC Act.

The project does not intersect any state planning or environmental protection policy areas.

The project does not intersect any land subject to an agreement under the Soil and Land Conservation Act 1945.

8. Clearing Permit Details

Western Power manages impacts of clearing through the implementation of an internal Vegetation Clearing Permit.

9. Post assessment requirements

Post assessment	Outcome	Justification / Further Action Required
Are submissions required?	Yes	Project clearing is required to be advertised on the Western Power website for comment. Submissions will also be sought from interested parties as par Condition 7 of CPS 1918/11.
Could the area be affected by dieback?	Yes	The proposed clearing is located below the 26th parallel and averages over 400mm of annual rainfall.
Has advice been received from DWER or an environmental specialist that the area may be susceptible to a pathogen other than dieback?	No	No pathogens identified in the vegetation and flora assessment
Is a Vegetation Management Plan required?	Yes	A Vegetation Management Plan (VMP) is required and has been completed for this project (Appendix B). Appendix B includes management actions for clearing and fulfills the requirement for a VMP.
Is rehabilitation/revegetation required?	No	No further action required.

Post assessment	Outcome	Justification / Further Action Required
Is a Dieback Management Plan required?	Yes	As per condition 9(c) a Dieback Management Plan will be developed for minimising the spread of dieback if works are to occur in conditions other than dry soil conditions.
Is an offset required?	Yes	The proposed clearing is at variance with Principle (A) and (C) and therefore an offset is required per condition 10(a) of CPS 1918-11. Due to the scale of clearing, a financial offset is proposed for this project.
What is the clearing risk rating?	High Risk	The project was deemed high risk under then Thresholds for determining Clearing Intervention requirements. due to variance against clearing principals and therefore a suitably qualified environmental advisor will conduct site verification at the time of clearing.

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Appendix A Stakeholder consultation

In accordance with Condition 7 of CPS 1918/11, Western Power will publish the Clearing Assessment Report on its website and invited submissions from the public. Responses to public submissions will be published on the website.

Western Power has identified the following parties as having an interest in aspects of the proposed clearing that are at variance or may be at variance to the clearing principles. Invitations will be made to the following parties with responses shared with DWER prior to final assessment.

Stakeholders	Invited to make submissions?	Date sent	Submission received?	Date received
Office of the Commissioner of Soil and Land Conservation within Department of Primary Industries and Regional Department (DPIRD)	Yes ☐ Not required ☒		Yes ☐ No ☐	
Department of Water and Environmental Regulation Drainage and Waterways Branch	Yes ☐ Not required ☒		Yes ☐ No ☐	
Conservation Council of WA	Yes ☐ Not required ☒		Yes ☐ No ☐	
Department of Biodiversity, Conservation and Attractions	Yes ☒ Not required ☐		Yes ☐ No ☐	
Local Government where the clearing is proposed	Yes ☒ Not required ☐		Yes ☐ No ☐	
Owner or occupier of the land on which clearing is proposed	Yes ☒ Not required ☐		Yes ☐ No ☐	
Any other party that may have an interest	Yes ☐ Not required ☒		Yes ☐ No ☐	

Responses to all submissions will be published on the Western Power website.

Appendix B Vegetation Management Plan

1.1 Introduction

The Vegetation Management Plan (VMP) has been prepared in accordance with condition 6 of CPS 1918/11.

1.2 Scope of the Project Activities

Western Power proposes to install the Padbury-Wangara 132kV Transmission Cable (Figure 1a and 1b) to support the transmission network within the north metropolitan area. The route is predominantly aligned within the road shoulder and carriageway, however, has minor clearing areas to connect into the substations.

The proposed works will involve the following components:

- Clearing of vegetation and earthworks
- Installation of new underground distribution lines
- Construction of new substation connections

Western Power has developed an indicative project layout to determine the Proposed Clearing Area for the clearing associated with the new substation connections. Within the Proposed Clearing Area approximately 0.38 ha (49%) of the 0.78 ha Proposed Clearing Area has been previously cleared or disturbed. Native vegetation is present across 0.4 ha (51%) of the Proposed Clearing Area.

Beyond the substation polygons (Proposed Clearing Area), the proposed alignment for the cabling route has been designed to be located either within the road lane/shoulder or existing cleared areas. Whilst there is 2.94 ha of native vegetation present across this area, no clearing is proposed.

1.3 Scope of the Vegetation Management Plan

The VMP highlights the project management issues and provides actions required to be undertaken before, during and following project completion. The aim of the VMP is to provide management actions to avoid, mitigate and/or manage the clearing impacts, to allocate areas of responsibility required for the implementation of management actions identified and to provide timeframes for completion and monitoring actions.

1.4 Non-Compliance

All non-compliances related to this VMP will follow Western Power's incident management procedure and will be logged in Guardian.

Project Component	Management Action	Evidence Action completed	Responsible Person	Completion Timeframe
Standard Actions				
Clearing	At the pre-start meeting provide clear maps indicating the areas approved to be cleared to the crew undertaking the works	Record sheet to be signed at pre-start meeting by all personnel.	Site Supervisor	Prior to clearing commencing
	All access and laydown areas will be clearly delineated on plans	Plans to be captured in the Volt.	Site Supervisor	Prior to clearing commencing
	Have a copy (electronic or hard copy) of the VMP on site during the clearing activities	One compliance inspection will occur prior to clearing.	Site Supervisor	Once clearing has been completed
	Clearing of vegetation shall not exceed the approved limits of clearing. All vegetation to be cleared will be demarcated on site prior to the commencement of project activities	One compliance inspection will occur prior to clearing. Representative photos will be taken.	Site Supervisor	Prior to clearing commencing
	Any vegetation cleared beyond the extent of approvals shall be rehabilitated to the pre-clearing condition	Clearing incident reported	Site Supervisor	Within 24 months
	Cleared vegetation will be respread in the neighbouring areas after project activities are completed or removed from site.	One compliance inspection will occur after clearing.	Site Supervisor	Once clearing has been completed
Specific Actions				
Principle a	*Where possible avoid and limit the amount of clearing on site.*	*One compliance inspection will occur prior to clearing.*	*Site Supervisor*	*Prior to clearing activities.*
	Ensure TEC/PEC to be retained is demarcated and the importance of protecting this area will be communicated to the crew during the pre-start.	*One compliance inspection will occur prior to clearing. Representative photos will be taken.*	*Site Supervisor*	*Prior to clearing activities.*

Project Component	Management Action	Evidence Action completed	Responsible Person	Completion Timeframe
Principle b	*Clearing will progress slowly in one direction to ensure fauna has opportunity to move on* *In the event that sick, injured or orphaned native wildlife are located on the project site, the WILDCARE Helpline ((08) 9474 9055) will be contacted for assistance and an incident will be lodged in Guardian.* *Feeding, disturbance, harassing of fauna or the presence of firearms or pets is prohibited on site.*	*One compliance inspection will occur prior to clearing.*	*Site Supervisor*	*Prior to and during clearing activities.*
	Ensure Black Cockatoo potential breeding trees within the Project Area to be retained will be demarcated and the importance of protecting this area will be communicated to the crew during the pre-start.	*One compliance inspection will occur prior to clearing. Representative photos will be taken.*	*Site Supervisor*	*Prior to clearing activities.*
Principle d	*PEC/TEC extent to be retained will be demarcated and the importance of protecting this area will be communicated to the crew during the pre-start*	*One compliance inspection will occur prior to clearing. Representative photos will be taken.*	*Site Supervisor*	*Prior to clearing activities.*
Standard Record Keeping				
Record Keeping-Clearing	Maintain the following records for the cleared area: Location of clearing area as a shapefile Size of clearing (ha) Date(s) on which clearing was done	Clearing data via CPS 1918/11 Condition 12a submitted to Environment team.	WP Project Owner	Data to be submitted within 30 days of project clearing activities being completed
Record Keeping - Clearing	Copies of all Vehicle Environmental Inspection Registers used to check that clearing machinery is free of soil and vegetative material must be maintained	Copies of completed registers submitted to WP Project Owner	Site Supervisor	Copies of completed registers are to be submitted within 30 days of project clearing activities being completed

Project Component	Management Action	Evidence Action completed	Responsible Person	Completion Timeframe
Record Keeping-Other	Maintain the other records in accordance with 12e (offsets).	Data via CPS 1918/11 Condition 12e managed by Environment team.	TET	Data to be submitted within 30 days of project activities being completed

Appendix C – Surveys

Executive Summary

AECOM Australia Pty Ltd (AECOM) was engaged by Western Power to undertake a spring flora, vegetation, fauna and black cockatoo assessment for defined linear corridors within the Perth Metropolitan Region on the Swan Coastal Plain (SCP). This Project is referred to as the Clean Energy Link (CEL). The five sites include: Padbury - Wangara, Pinjar Terminal, Neerabup Terminal and East Wanneroo, NT-NOR to HBK 132kV Line and Northern Terminal.

A summary of the Padbury - Wangara results is presented below:

- One patch of -Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain Threatened Ecological Community (Tuart Woodlands TEC) listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and as Priority 3 by Department of Biodiversity, Conservation and Attractions (DBCA). The patch extends for 0.54 ha.
- No significant flora listed under the EPBC Act or the *Biodiversity Conservation Act 2016* (BC Act) or by DBCA were recorded during the survey.
- Three conservation significant fauna species were recorded during the survey, including two bird species and one mammal species:
  - Carnaby's Cockatoo (*Zanda latirostris)* listed as Endangered under the EPBC Act and the *Biodiversity Conservation Act 2016* (BC Act)
  - Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso)* listed as Vulnerable under the EPBC Act and BC Act
  - Quenda (*Isoodon fusciventer)* listed as Priority 4 by DBCA.

Executive Summary

Western Power commissioned SLR Consulting Australia to undertake a detailed flora and vegetation, targeted significant flora, basic terrestrial vertebrate fauna, and black cockatoo habitat assessment for the proposed Clean Energy Link Program to supplement existing survey information and characterise the environmental values of the site to inform environmental approvals. The Survey Area covers approximately 29.3 hectares and is located in the Perth suburbs of Padbury and Wangara, in the Swan Coastal Plain bioregion of Western Australia.

The objective of the survey was to identify key flora, vegetation, and fauna values within the Survey Area as part of the environmental impact assessment process. This report presents the findings of the survey.

Flora and Vegetation

The flora and vegetation survey recorded a total of 27 sites (comprising 4 quadrats, 4 relevés and 19 mapping notes) with the Survey Area. A total of 91 taxa were recorded from 69 genera across 37 families.

The database searches identified 67 extant Threatened and Priority Flora species as having the potential to occur within the Survey Areas. Prior to the survey, 14 species were considered to have a high likelihood of occurring within the Survey Area, 14 were considered to have a medium likelihood and the remaining 39 were given a low likelihood of occurrence.

One Threatened flora taxa, *Grevillea curviloba*, pursuant to the EPBC Act 1999 and gazetted as Threatened/Declared Rare Flora pursuant to the BC Act 2016 were recorded during the survey, however it had been planted as part of rehabilitation is not considered to be conservation significant.

One Priority 3 taxa, *Grevillea olivacea*, was recorded however, it had also been planted in rehabilitation and not considered conservation significant

A total of 46 weed species were recorded in the Survey Area. One species, **Moraea flaccida* was listed as a Declared Pest by the State Department of Primary Industries and Regional Development.

Four natural vegetation types, and seven modified vegetation types, were described and mapped across five broad landforms (crests, slopes, swales and flats associated with sand dune systems and fringing riparian areas of clay-loam seasonally inundated sand). The natural vegetation types were all considered analogous to Threatened or Priority Ecological Communities.

Vegetation types EgAs and an additional four patches of Tuarts were considered analogous to the ‘Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain’ Critically Endangered (EPBC) threatened ecological community and Tuart (Eucalyptus gomphocephala) woodlands of the Swan Coastal Plain priority ecological community, which is listed as Priority 3 by the State and Critically Endangered under the Environment Protection Biodiversity and Conservation Act 1999.

Vegetation type CpMh was considered analogous to the ‘*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described in Gibson et al. 1994) (DBCA) ecological community, which is listed as Critically Endangered by the State and not listed under the Environment Protection Biodiversity and Conservation Act 1999.

Vegetation type ApMs was considered analogous to the Coastal shrublands on shallow sands ('floristic community type 29a') ecological community, which is listed as Priority 3 by the State and not listed under the Environment Protection Biodiversity and Conservation Act 1999.

Vegetation condition within the Survey Area ranged from Very Good to Completely Degraded Condition with the majority considered to be in Completely Degraded condition. Evidence of disturbance included with parkland management, weeds, and previously established infrastructure.

Vertebrate Fauna

Fauna habitat mapping was based on a combination of field observations, vegetation mapping, fauna habitat assessment data, and aerial imagery. Seven fauna habitats were mapped within the Survey Area: Native Eucalyptus Woodland over Mixed Native Heathland, Eucalyptus Woodland Cleared Understorey, Open Tuart Woodland over Mixed Shrubland, Roadside Non-endemic Trees, Mixed Planted Verge Vegetation, Mixed Garden Planted, and Open Callitris Woodland Cleared Understorey. Of these habitats, the Native Eucalyptus Woodland over Mixed Native Heathland, Open Tuart Woodland over Mixed Shrubland, and Eucalyptus Woodland Cleared Understorey provide the most value to significant fauna and the overall fauna assemblage.

A total of 21 fauna taxa from 13 families were recorded, comprising of 20 birds, two mammals, and one reptile. Two significant taxa were recorded during the fauna survey:

- Carnaby's Cockatoo (*Zanda latirostris*) listed as Endangered under the BC Act and EPBC Act.
- Quenda (*Isoodon fusciventer*), listed as Priority 4 by the DBCA.

Two significant fauna taxa were assessed as having a high likelihood of occurring within the Survey Area:

- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) listed as Vulnerable under the BC Act and EPBC Act.
- Black-striped Snake (*Neelaps calonotos*) listed as Priority 3 under DBCA.

74 significant fauna taxa were assessed as having have a low likelihood of occurring within the Survey Area.

Two introduced taxa were recorded during the survey, Laughing Kookaburra (*Dacelo novaeguineae*) and Rainbow Lorikeet (*Trichoglossus moluccanus*).

The field survey recorded 169 potential nesting trees (i.e. trees that do not contain suitable hollows but may in the future) and two suitable nesting trees (i.e. trees that appear to contain suitable hollows when observed from the ground). Some of these trees contained more than one hollow.

The basic fauna and black cockatoo habitat assessment survey was undertaken in November, which is within the recommended timing for birds, mammals, reptiles and amphibians.

6.0 Conclusion

6.1 Flora and Vegetation

- One Threatened flora taxa, *Grevillea curviloba*, pursuant to the EPBC Act 1999 and/or gazetted as Threatened/Declared Rare Flora pursuant to the BC Act 2016 were recorded during the survey, however it had been planted as part of rehabilitation is not considered to be conservation significant
- One Priority 3 taxa, *Grevillea olivacea*, was recorded however it had also been planted in rehabilitation and not considered conservation significant
- A total of 46 introduced taxa were recorded, one of which, **Moraea flaccida,* is listed as Declared Pests by the State Department of Primary Industries and Regional Development.
- Vegetation condition within the Survey Areas was as expected in the highly fragmented rural/urban environment. Most of the Survey Areas was either Completely Degraded or cleared, houses and, associated infrastructure, roads, gardens, and Pinnaroo Valley Memorial Park. The remaining patches of remnant native vegetation ranged from Very Good to Degraded Condition.
- Vegetation type CpMh was determined to have an affiliation with *Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described in Gibson et al. 1994) which is listed as Critically Endangered by the State and is not listed under the Environment Protection Biodiversity and Conservation Act 1999.
- Vegetation types ApMs and EgApMs are analogous to Coastal shrublands on shallow sands (‘floristic community type 29a’) Priority 3 ecological community. FCT SCP 29a is listed as a Priority 3 community by the State is not listed under the Environment Protection Biodiversity and Conservation Act 1999.
- Five patches of BaBmEm is considered representative of the Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain’ TEC.

6.2 Fauna

- Seven fauna habitats excluding cleared areas were mapped within the Survey Area: Native Eucalyptus Woodland over Mixed Native Heathland, Eucalyptus Woodland Cleared Understorey, Open Tuart Woodland over Mixed Shrubland, Roadside Non-endemic Trees, Mixed Planted Verge Vegetation, Mixed Garden Planted, and Open Callitris Forest Cleared Understorey. Of these habitats, the Native Eucalyptus Woodland over Mixed Native Heathland, Open Tuart Woodland over Mixed Shrubland, and Eucalyptus Woodland Cleared Understorey provide the most value to significant fauna and the overall fauna assemblage.
- No black cockatoo breeding and foraging evidence was documented during the survey. Two trees containing potentially suitable hollows were recorded within the Survey Area showed no sign of black cockatoo. Suitable foraging habitat was present within the Native Eucalyptus Woodland over Mixed Native Heathland, Eucalyptus Woodland Cleared Understorey, Open Tuart Woodland over Mixed Shrubland, and Open Callitris Forest Cleared Understorey fauna habitats.
- A total of 21 fauna taxa from 13 families were recorded, comprising 20 birds, two mammals, and one reptile. Two significant taxa were recorded during the fauna

survey, Carnaby's Cockatoo (*Zanda latirostris*), listed as Endangered under the BC Act and EPBC Act, and Quenda (*Isoodon fusciventer*), listed as Priority 4 by the DBCA.

- Two significant fauna taxa were assessed as having a high likelihood of occurring within the Survey Area:
    - Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) listed as Vulnerable under the BC Act and EPBC Act.
    - Black-striped Snake (*Neelaps calonotos*) listed as Priority 3 under DBCA.
- The remaining 74 significant fauna taxa were assessed as having a low likelihood of occurring within the Survey Area.
- Two introduced taxa were recorded during the survey, Laughing Kookaburra (*Dacelo novaeguineae*) and Rainbow Lorikeet (*Trichoglossus moluccanus*).