

CPS 1918 Western Power Offset Proposal

Yanchep substation expansion

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Offset Proposal Summary

Project Location: Yanchep Substation in the City of Wanneroo.

Project background and purpose:

The Western Australian Government is upgrading The Southwest Interconnected System (SWIS) electricity network. The objective of this project is to deliver the design, supply, installation, and commissioning of a third 132/22kV, 33MVA transformer and switchboard at Yanchep Zone Substation to address existing and forecast capacity constraints and maintain compliance with planning and reliability criteria.

Installing a third transformer at Yanchep aligns with Western Power's long-term network strategy for the North Metro Region which acknowledges the load issues at several zone substations, including Yanchep. Distribution feeder. Switching is performed for substations with marginal overloads provided neighbouring substations have spare available capacity with distribution interconnectivity. However, for substations with forecast capacity overloaded significantly, major augmentation works will be required to mitigate the capacity constraints to ensure reliability of supply is maintained to customers in the event of contingency.

As part of capacity expansion program, Western Power are undertaking augmentation of the transmission substation capacity by installing a new transformer and switch room and decommissioning the old transmission plant. As such, clearing of native vegetation is required to:

- Enable installation of the new switch room and reactor bank to the north of the current plant.
- Establish a 4-metre-wide access track leading to the north of the new fence line and linking the existing western and eastern access tracks.
- Establish an 8m x 23metre clear area to accommodate the new substation equipment and provide a safe working area.

Avoidance and Mitigation Measures:

- No more than 0.15 hectares (ha) of the native vegetation comprising of:
 - 0.14 ha of mixed eucalypt woodland in good condition.
 - 0.01 ha consists of 'completely degraded' vegetation.
- Approximately 0.06 ha of the proposed clearing area occurs within the DBCA managed Neerabup national park conservation area, (Class A reserve) and the remaining 0.09 ha of the proposed clearing area is within the Western Power property boundary.
- Existing access tracks will be maintained and utilised to minimise areas of new clearing.
- No more than 0.06 ha of the Neerabup Conservation Reserve will be cleared.
- A Dieback survey was completed in 2025, and a Hygiene Management Plan (HMP) will be implemented with all dieback avoidance measures to occur during the clearing works.

Project impacts:

Total clearing for this project is proposed to be up to 0.15 ha.

The key clearing impacts for this project include:

- Up to 0.14 ha of high-quality foraging habitat for Carnaby's Cockatoo to be cleared.

- Up to 0.06ha of Bush Forever vegetation located within Neerabup National Park which comprises of mixed eucalypt woodland of Tuart, Jarrah and Marri.

While the indicative clearing area does overlap some remnant native vegetation, the project will predominantly clear previously cleared vegetation associated within the maintenance zone.

Clearing Principles that may be at variance

Western Power has determined that the native vegetation clearing of the project is considered to be at variance to clearing principles (b) and (h) and maybe at variance to (a);

- Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of a significant habitat for fauna.
- 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.
- Native vegetation should not be cleared if it comprises a high level of biodiversity.

During the approvals process, the Department of Water and Environmental Regulation (DWER) reviewed the Clearing Assessment Report (CAR) on 22 January 2026 and concurred with the variance levels to the clearing principles as assessed by Western Power.

Offset Information and Proposal

When clearing native vegetation under CPS 1918/11 that is at variance to one or more of the clearing principles, an offset proposal is required to be implemented prior to commencing project activities. Western Power proposes to make a financial contribution to the Department of Water and Environmental Regulation (DWER) to mitigate significant residual impacts arising from native vegetation clearing that is at variance to the clearing principles. The proposed offset will address the loss of vegetation and habitat values by supporting conservation efforts of comparable ecological value via a financial contribution.

Western Power's Offset Proposal is to provide \$50,750.00 for the purchase of approximately 1.45 ha of bushland within the Shire of Wanneroo to compensate for the significant residual impacts associated with the clearing of native vegetation for the project. Western Power are proposing that this monetary amount cover for the requirement to revegetate at a 2:1 ratio for the clearing of 0.6 ha of Bush Forever. The small scale of the offset site required is not sustainable and therefore a monetary offset would allow the offset to be combined into a size that is sustainable. The offset includes a calculation of impacts under State requirements. The Offset Proposal was developed using the DWER WA Environmental Offset Calculator Tool (DWER, 2021) to determine the area of the offset required in hectares, multiplied by the market valuation of the vegetated land within the relevant Shire, obtained from the 2019 Western Australian Valuer General rates (DWER, 2025).

1. Project Description

Yanchep Substation is a 132/22 kV zone substation within the North Metro Region and has two 33 MVA transformers (YP T1 & T2) and one decommissioned transformer (T3) and one decommissioned capacitor bank (CAP52).

In 2024, the actual peak load at Yanchep Substation reached its Normal Cyclic Rating (NCR) planning capacity of 60.7MVA and continues to increase, indicating faster-than-expected demand growth. According to the latest forecast, demand rose sharply from 2025 onwards, exceeding the NCR capacity criteria and surpassing both the planning and installed capacity limits as early as 2025.

To meet future energy needs, Western Power need to:

- Build a 33MVA 132KV Transformer, switchboard and reactor bank within the existing network footprint to significantly increase transmission capacity reliability.
- Relocate and add new ring main units to allow the distribution capacity to be delivered to both new and old customers.

To mitigate against the capacity and reliability risk, Western Power plans to augment the power transmission and distribution capacity by installing a new 33MVA 132KV Transformer, reactor bank and a new switch room for the switchboard. As such, clearing of native vegetation is required to:

- Enable expansion and install the new equipment.
- Establish a 4m metre wide access track to the north of the cleared area linking the existing eastern and western tracks.
- Establish a 23 x 8 metre clear area to the north of the existing fence line to accommodate the new equipment and provide a safe working area.
- Install a new switch room and reactor bank within the substation.

1.1 Location

The project is located on the corner of Romeo road and Wanneroo road, in the city of Wanneroo, approximately 37 km north of the Perth Central Business District (CBD).

1.2 Measures undertaken to avoid and mitigate clearing impacts

Alternative engineering and design options were not considered, as the works are restricted to the location of the existing Yanchep Substation. The activities involve expansion of the Yanchep substation and where possible, existing tracks and already cleared areas will be utilised.

Where possible the vegetation clearing has been considered to reduce impacts as follows in Table 1.

Table 1 Avoidance measures

Environmental value	Impacts	Avoidance measure
Biodiversity		
Clearing of native vegetation within Bush Forever	- Loss of 0.06ha of vegetation located within Bush Forever site 383 and Neerabup National Park. 0.14ha of the proposed clearing area comprises of high quality Carnaby's Black Cockatoo foraging habitat (Figure 4).	- Clearing will be restricted to 0.06ha of 'good' quality vegetation within Bush Forever site 383 and Neerabup National Park. - Existing access tracks will be maintained and utilised to minimise areas of new clearing.
Fauna		
Carnaby's Black Cockatoo breeding habitat	Two potential Black Cockatoo nesting trees were recorded during the 2024 survey within the proposed clearing area.	- These trees have no suitable hollows for black cockatoo nesting. - There are no known nesting trees to be impacted by the proposal.
Carnaby's Black Cockatoo foraging habitat	0.14ha of the proposed clearing area comprises of high quality Carnaby's Black Cockatoo foraging habitat (Figure 4).	- No more than 0.14ha will be cleared. - Existing access tracks will be maintained and utilised to minimise areas of new clearing. - No drilling or underground trenching will occur
Reserves		
Conservation Reserve	0.06 ha (0.05%) of Neerabup National Park Conservation Reserve occurs within the Proposed Clearing Area (Figure 1). - Potential for Dieback infestation at this location during the clearing works. The site is currently dieback free.	- No more than 0.06 ha of the Conservation Reserve will be cleared. - A Dieback survey was completed in 2025. - A Hygiene Management Plan will be implemented with all dieback avoidance measures to occur during the clearing works.

2. Maps

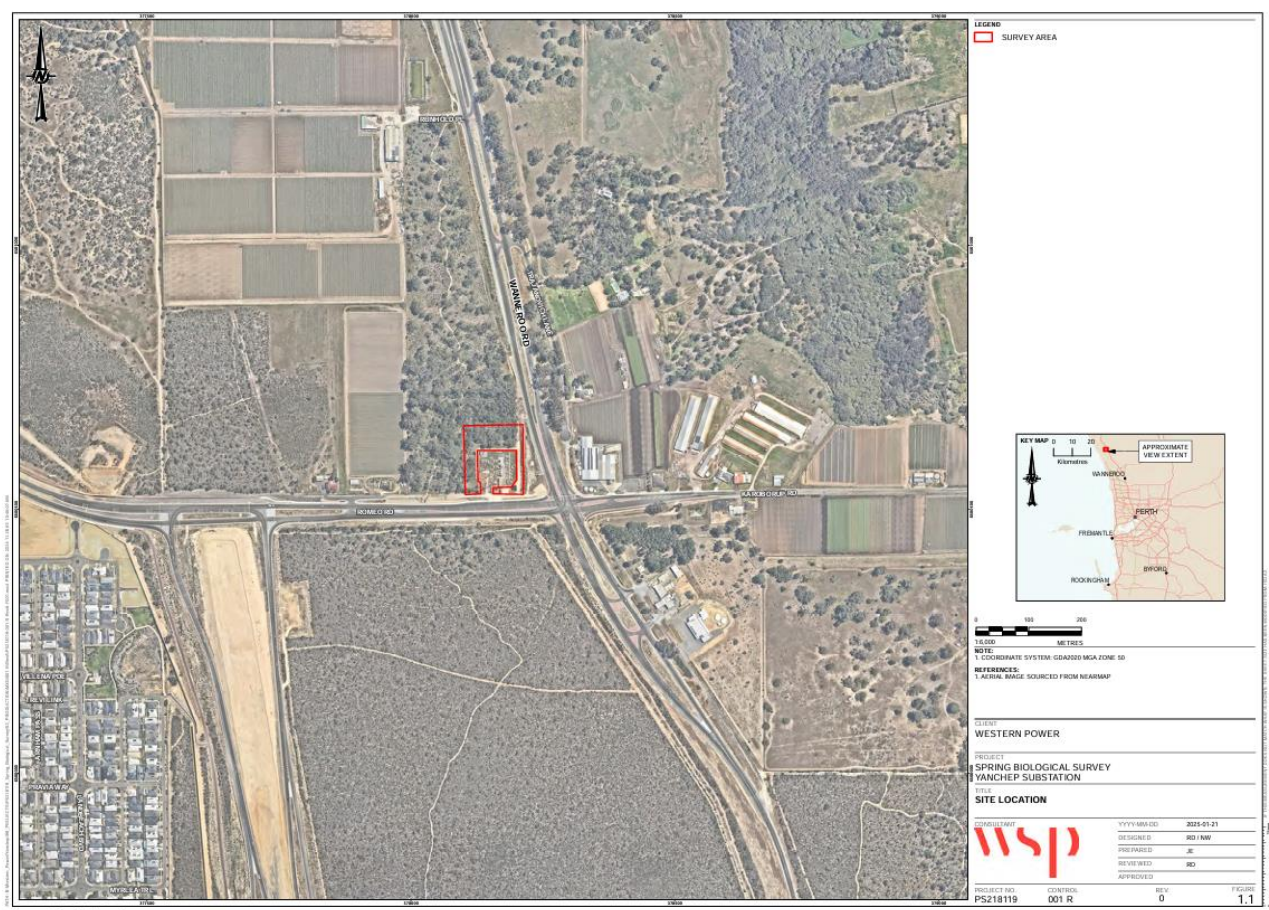


Figure 1: Project location

T0624343 Yanchep Substation Clearing Area



Figure 2 – Clearing area



Figure 3.9 Vegetation condition mapping

Figure 3: Vegetation Condition

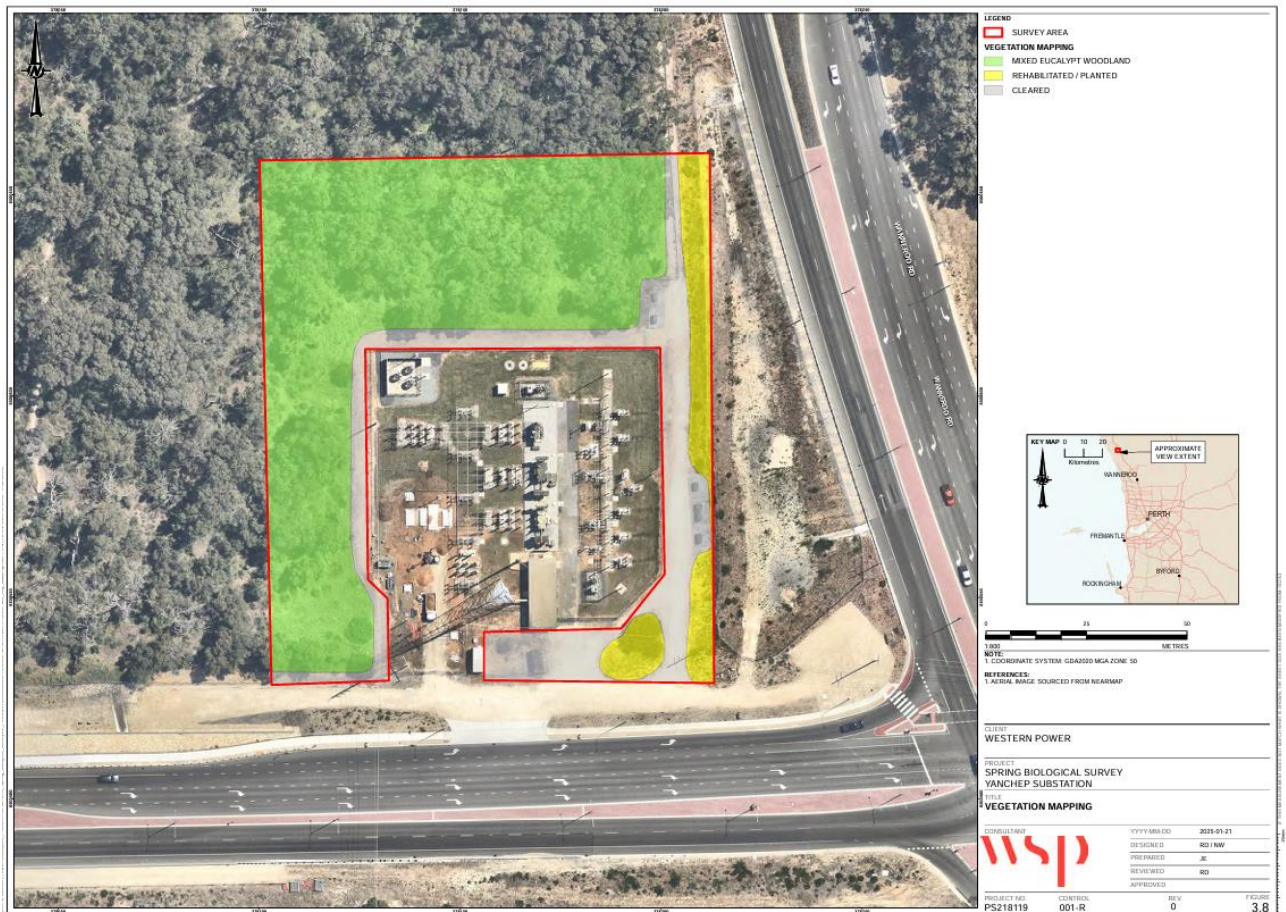


Figure 4: Fauna Habitat

3. Offset Proposal Requirements

3.1 Assessment against Ten Clearing Principles

Western Power has undertaken a clearing environmental assessment of the proposed clearing. The project is considered to be at variance to Principles (b) and (h) and may be at variance to (a). The project is not likely to be variance to the other principles.

The assessments of principles found to be at variance are included in Table 2 below. The below table also summarises the offset required as defined by the DWER WA Environmental Offsets Calculator (DWER, 2021) (Refer Section 3.2).

Table 2 Summary of Clearing Impacts for expansion of Yanchep substation

Environmental Factor	Clearing Principle	Area of vegetation at variance with Ten Clearing Principles	Proposed Offset (if required)
Vegetation, Flora and Fauna	At variance to Clearing Principle (a) - Native vegetation should not be cleared if it comprises a high level of biological diversity.	Up to 0.14 ha of Carnaby's Cockatoo foraging habitat to be cleared.	Western Power is proposing financial contribution to a fund established by DWER.
Fauna	At variance with Clearing Principle (b) - Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	Up to 0.14 ha of Carnaby's Cockatoo foraging habitat to be cleared and two potential nesting trees.	
Vegetation (Reserves and conservation areas)	At variance with Clearing Principle (h) – Impacts to a conservation reserve	0.06 ha of clearing will occur within Neerabup National Park (DBCA Conservation Class A Reserve) and Bush Forever site 383	Western Power is proposing financial contribution to a fund established by DWER.

3.2 Summary of Offset Proposed

Western Power's offset proposal is to provide \$50,570.00 for the purchase of approximately 1.45 ha within the City of Wanneroo to compensate for the significant residual impacts associated with the clearing of native vegetation for the project. A summary of the offset proposed is provided in Table 3 below.

Table 3 Summary of Residual Impacts

Residual impact	Revegetation for temporary clearing applicable (Y/N)	Offset type (Other)	Size of offset applicable to residual impact (ha)	% of residual impact offset
Loss of Carnaby's Black Cockatoo habitat	N	Financial contribution to a fund established by DWER	1.45	100%

Loss of 0.06ha of vegetation located within Bush Forever site 383 and Neerabup National Park.	N	Financial contribution to a fund established by DWER	0.12ha (2:1 ratio for Bush forever)	100%
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*Size of offset applicable to residual impact (ha) is taken directly from the outputs of the DWER Environmental Offsets Calculator (DWER, 2021).

3.3 Justification for the offset proposal

In accordance with DWER's hierarchy of offsets, Western Power has evaluated the feasibility of each element in the offsets hierarchy and have concluded that a monetary offset would have the best environmental outcome considering the size, condition and location of the proposed clearing area. Table 4 presents Western Power's offsets hierarchy justification.

The DWER WA Environmental Offsets Calculator was used to evaluate project impacts for clearing Principle (b) (h) and maybe (a), with significant residual impacts in accordance with the requirements of the WA Environmental Offsets Guidelines (WA Govt., 2014). The values input into the Environmental Offsets Calculator for the significant residual impacts for Clearing Principle (b), (h) and maybe (a) is provided in Table 5 below.

Table 4 – Offsets hierarchy justification

Offsets hierarchy	Justification
Strategic offsets banked	Western Power currently have offsets banked in Orange Springs, however given the geographical location, this offset would only provide benefit to the Carnaby's cockatoo and no other species of conservation significant black cockatoos. In addition, the vegetation association proposed for clearing (Spearwood 998) would not provide for a like for like offset should the Orange Springs property be used.
Regional or Local revegetation or rehabilitation	Land within the vicinity of the clearing area is mainly privately owned and comprised of market gardens, rural blocks and encroaching subdivisions. The rural blocks within the area wouldn't be able to accommodate the offset size required and such a small area won't survive long term or be self-sustaining. The local Department of Biodiversity, Conservation and Attractions Swan Coastal Plain district was contacted to determine if there were any existing revegetation or rehabilitation opportunities that Western Power could contribute to. In this instance, there wasn't an existing program that Western Power could contribute to. As part of the Clean Energy Link North project, the City of Wanneroo advised they have no areas available for local revegetation activities.

Regional or Local land acquisition or change of suitable land	The surrounding land use is changing, with encroaching subdivisions for residential purposes and some remaining market gardens. These rural blocks wouldn't be able to accommodate the required offset size area. In addition, there may be an absence of fauna habitat linkages to a piece of residential land within the local area and therefore rehabilitating a small area within a residential area would not provide the ecological benefit intended. Acquisition of land in the broader region would not provide the same type of ecological benefit in the local area. A search for land in the local and broader area was conducted, where there wasn't anything suitable for the required size. Furthermore having an isolated patch of this size will be degraded by edge effects over time and is unlikely to survive long term or be self-sustaining. Combining this with another offset site or existing DBCA reserve would provide better overall long term outcomes.
Monetary contribution	Western Power proposes to submit a financial contribution of \$50,750.00 to DWER which can be put towards a fund to purchase a larger parcel of land that DWER will manage as a reserve. This approach will have a higher likelihood of sustainability into perpetuity. Utilisation of the funds will enable the implementation of an offset as soon as possible. Western Power also request that the monetary contribution goes towards the Bush Forever revegetation 2:1 offset requirement.

The DWER WA Environmental Offsets Calculator was used to evaluate project impacts for biodiversity clearing principles (principles a, b and h) with significant residual impacts in accordance with the requirements of the WA Environmental Offsets Guidelines (WA Govt., 2014). The values input into the Environmental Offsets Calculator for the significant residual impacts for each Clearing Principle is provided in Table 5 below.

Table 5 Values that were input into the DWER WA Offset Calculator Tool

A copy of the DWER Environmental Offset Calculator Tool worksheets for the residual impacts to the relevant clearing principles for the project are included as Appendix A.

Attribute	Value	Justification
Area of habitat impacted	0.8 ha	Loss of 'good' quality vegetation within in Bush Forever site 383 (clearing principle a) – Proposed clearing of 0.06ha Bush Forever vegetation location with Neerabup National Park (Class A reserve). Loss of Foraging habitat for Carnaby's Cockatoo (Clearing Principle b) - Proposed clearing of 0.14 ha of Carnaby's Cockatoo foraging habitat.
Vegetation/Habitat quality of the impacted area (takes into account the regional context and stocking rate)	8	Much proposed clearing area is rated as 'Good' to 'Completely Degraded' condition based on the 2024 survey (Figure 3) (WSP, 2024). This habitat extends beyond the proposed clearing area to the north into the Conservation Reserve, offering a connectivity corridor for fauna. There is a loss of 0.06 ha of native vegetation which is located within Neerabup National Park and Bush Forever site 383.
Start quality Vegetation/habitat Quality of the offset area (takes into account the regional context and stocking rate)	8	The rating for the vegetation varies from 'Good' to 'Degraded' condition (WSP, 2024). It is assumed that land purchase with funds provided under s51i (2b) of the EP Act (1986) would be in 'Excellent' condition.
Future Quality without Offset	8	Unlikely to change over a period of one year
Future Quality with Offset	8	Acquisition only therefore no change
Time Horizon over which loss is averted (security of land tenure)	20 years	Land purchased with financial contributions will be added to the conservation estate so long-term protection is afforded. Twenty years is the maximum value that can be input.
Time until offset site secured	3 years	Accounts for any delays that may occur because of finding suitable property and negotiating acquisition with DBCA.
Time until ecological benefit	1 year	Short timeframe required for land to be purchased and placed into the conservation estate.
Risk of loss without offset	15%	Land zoned 'rural' is typically acquired as offsets. 15% is a conservative risk of loss score that can be applied for this zoning. It is consistent with most direct offsets accepted by the Department.
Risk of loss with offset	5%	Minimal risk. Offset placed into secure tenure managed by the State (i.e. Conservation Estate). Five percent allows for ongoing management of the offset site.
Confidence in result	90%	High degree of confidence. Financial contributions are used to purchase land that is added to the Conservation Estate through a State guaranteed scheme

3.4 Calculation of financial contribution

The financial contribution was calculated using the DWER Environmental Offset Calculator Tool (2021) to determine the area of the offset required in hectares (1.45 ha), multiplied by the market valuation (\$35,000) of the unimproved (vegetated) land for a land parcel size of 1.45 ha within the Shire of Wanneroo and obtained from the 2019 Valuer General rates (DWER, 2025).

The market valuation of the vegetated land was based on the valuation obtained from the Valuer General (on a \$/ha basis) for unimproved (vegetated) land within the LGA (Landgate 2014). As the Valuer General's market valuation (\$/ha) of vegetated land differs according to the size of the land parcel, the valuation of the closest 'standard parcels' of land (i.e. 10, 50, 100, 200 or 500 ha) was used to determine the market valuation of the offset area.

3.5 Offset condition milestones

Condition Milestone 1 – Western Power shall provide documentary evidence to the Chief Executive Officer of DWER that funding of \$50,570.00 has been transferred to the Department.

Timeframe for Completion – Prior to undertaking any clearing for the Yanchep substation expansion authorised under CPS1918/11.

4. Application of Environmental Offset Policy Principles

The WA Environmental Offsets Policy (Government of Western Australia 2011) states that environmental offsets are to be used as a last resort and details six principles to be applied in the assessment and decision making with respect to offsets. The application of these environmental offset principles to the Project offset proposal is provided in Table 6.

Table 6 Application of WA Environmental Offset Policy principles to the offset proposal

Principle No.	Principle	Comment
1	Environmental offsets will only be considered after avoidance and mitigation options have been pursued.	All available strategies to prevent and reduce environmental impacts have been thoroughly assessed and applied. Refer Section 1.2.
2	Environmental offsets are not appropriate for all projects.	Where clearing activities deviate from the clearing principles and result in a significant residual impact, environmental offsets must be applied. A clearing environmental assessment was conducted in accordance with Western Power's SWIN-wide Clearing permit CPS 1918 and determined that the project is at variance with principles (b) and (h) and maybe at variance to principle (a) of the ten Clearing Principles listed in Schedule 5 of the EP Act.
3	Environmental Offsets will be cost effective, as well as relevant and proportionate to the significance of the environmental value being impacted.	Western Power believes the offset is a fair and efficient way to balance the environmental loss from the project. The land funded through this contribution will have the same or better environmental quality than the clearing footprint.
4	Environmental offsets will be based on sound environmental information and knowledge.	Funds will be allocated to acquire land with appropriate environmental values, located as near as practicable to the clearing site. Land selection and ongoing management will be guided by robust environmental data and expertise.
5	Environmental offsets will be applied within a framework of adaptive management.	Funding will be allocated for the acquisition of land possessing appropriate ecological values. This land will be incorporated into the conservation estate and managed in line with evolving environmental science and best practices.
6	Environmental offsets will be focused on longer term strategic outcomes.	The proposed offset will contribute to the Offset Fund established by DWER under the EP Act (1986) for the acquisition of offset sites. Land to be purchased will be added to the conservation estate.

5. Stakeholder Consultation

Consultation with key stakeholders has been undertaken for this Project in accordance with Western Powers internal processes.

- Department of Water and Environmental Regulation (DWER)
- City of Wanneroo
- Department of Biodiversity, Conservation and Attractions (DBCA)
- Department of Planning Lands and Heritage

The clearing assessment, including details of the offset proposal will be published on the Western Power website for public comment.

6. References

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Appendix A – DWER Offset Calculator Results

				Key:			
Clear Data						Data to be entered	
						Drop-down selection	
						Automatically-generated scores	
Environmental value (step 1)	Loss of Carnaby's black cockatoo habitat	Significant impact (step 2, part A)	0.14				
		Rehabilitation credit (step 2, part B)	0.00				
		Significant residual impact (step 2, part C)	0.11				
Area (offset site)							
Offset calculation Area							
Offsets calculation	Description	Proposed offset (area in hectares)	1.45	Duration of offset implementation (maximum 20 years)	20.00	Offset value	0.11
	Orange Springs offset site	Current quality of offset site (scale)	8.00	Time until offset site secured (years)	3.00		What-if Analysis
		Future quality WITHOUT offset (scale)	8.00	Risk of future loss WITHOUT offset (%)	15.0%	What-if Analysis Reinstate Formula	
		Future quality WITH offset (scale)	8.00	Risk of future loss WITH offset (%)	5.0%		
			Time until ecological benefit (years)	1.00			
		Confidence in offset result (%)	90.0%	OFFSET ADEQUATE? YES			