



## Regional Development Assessment Panel Agenda

**Meeting Date and Time:** Tuesday, 28 April 2026; 9:30am  
**Meeting Number:** RDAP/71  
**Meeting Venue:** 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:  
[RDAP/71 - 28 April 2026 - Shire of Broome](#)

### **PART A – INTRODUCTION**

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Noting of Minutes

### **PART B – SHIRE OF BROOME**

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
  - 3.1 Lot 297 Broome-Cape Leveque Road, Dampier Peninsular – Proposed renewable energy facility (Aalga Goolil Djarindjin Community Power Project (DCP Project) – DAP/26/03053
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

### **PART C – OTHER BUSINESS**

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. Meeting Closure

*Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation*



<b>DAP Members</b>
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Francesca Lefante (Presiding Member)
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Karen Hyde (Deputy Presiding Member)
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Neema Premji
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Cr Jan Lewis (Part B – Shire of Broome)
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Cr Peter Taylor (Part B – Shire of Broome)
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<b>DAP Secretariat</b>
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Shanara Wijethunga
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Ashlee Kelly
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## **PART A – INTRODUCTION**

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## **PART B – SHIRE OF BROOME**

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**3. Form 1 DAP Applications**

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**4. Form 2 DAP Applications**

Nil

**5. Section 31 SAT Reconsiderations**

Nil

**PART B - ITEM 3.1 - Lot 297 Broome-Cape Leveque Road, Dampier Peninsular – Proposed Renewable Energy Facility (Aalga Goolil Djarindjin Community Power Project (DCP Project)**

**Form 1 – Responsible Authority Report**  
(Regulation 12)

<b>DAP Name:</b>	Regional DAP
<b>Local Government Area:</b>	Shire of Broome
<b>Applicant:</b>	RFF
<b>Owner:</b>	Djarindjin Aboriginal Corporation - DPLH (Responsible Agency)
<b>Value of Development:</b>	\$12 million
<b>Responsible Authority:</b>	Shire of Broome
<b>Authorising Officer:</b>	Jacinda Perkins
<b>LG Reference:</b>	DA2026/13
<b>DAP File No:</b>	DAP/26/03053
<b>Application Received Date:</b>	Wednesday, 28 January 2026
<b>Report Due Date:</b>	22 April 2026
<b>Application Statutory Process Timeframe:</b>	60 Days
<b>Attachment(s):</b>	1. Location, Site and Elevations Plan 2. Development Plan 3. Lodgement Package 4. Cover Letter 5. Support Letter

**Responsible Authority Recommendation**

That the Regional DAP resolves to:

- Approve** DAP Application reference DAP/26/03053 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the Shire of Broome Local Planning Scheme No. 7, subject to the following conditions:

**Conditions**

- This decision constitutes planning approval only and is valid from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
- At all times, the measures set out in the approved Bushfire Management Plan prepared by Western Environmental and dated 12 November 2025 must be implemented by the owner at their cost to the satisfaction of the Shire of Broome.

The owner must supply evidence that all measures identified as requiring implementation by the owner in the Bushfire Management Plan have been implemented by the 1 May each year.

3. Prior to the occupation of the development, areas set aside for parked vehicles and access lanes, as shown on the approved plans, must be:
  - a) Finished to a sealed standard (either asphalt, two-coat bitumen seal or concrete), drained and kerbed in accordance with the approved plan.
  - b) Fully drained in accordance with the Shire of Broome's guidelines and specifications.
  - c) Line marked and signed in accordance with AS 2890 (off street parking) and disabled bays to be in accordance with AS/NZS2890.6:2009.
  - d) Maintained by the owner and kept available for these purposes.

### Advice Notes

1. Where an approval has so lapsed, no development must be carried out without the further approval of the local government having first been sought and obtained.
2. It is the responsibility of the owner to obtain any other necessary approvals, consents and licenses required under any other law, and to commence and carry out development in accordance with all relevant laws.
3. The granting of this Development Approval is not a clearance that there are no Aboriginal Heritage Sites on the land nor is it an approval under Section 18 of the Aboriginal Heritage Act 1972. The owner will need to make enquiry and application to the Department of Planning, Lands and Heritage in order to ensure compliance with the Aboriginal Heritage Act 1972.

### Reasons for Responsible Authority Recommendation

N/A

### Details: outline of development application

Region Scheme	N/A
Region Scheme - Zone/Reserve	N/A
Local Planning Scheme	Local Planning Scheme No.7
Local Planning Scheme - Zone/Reserve	Settlement
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Renewable Energy Facility
Lot Size:	1632649m <sup>2</sup>
Existing Land Use:	Vacant Land
State Heritage Register	No
Local Heritage	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Heritage List <input type="checkbox"/> Heritage Area
Design Review	<input checked="" type="checkbox"/> N/A

	<input type="checkbox"/> Local Design Review Panel <input type="checkbox"/> State Design Review Panel <input type="checkbox"/> Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

### Proposal:

#### Proposed Development

Aalga Goolil Djarindjin Community Power Project (DCP Project). The DCP project proposes Western Australia's first 100% Indigenous owned solar battery power station. The power station will meet 80% of the connected loads, displacing the use of the ageing Horizon power diesel plant.

The proposal comprises of the instillation of a 1.6MWp solar photovoltaic (PV) generation and 3.25MWh battery and energy storage system (BESS) that will connect Djarindjin Lombadina Microgrid via the master switch board at the existing Djarindjin power station. The development will occupy approximately 7.53 hectares of land. The proposal includes:

- 3,408 solar PV array and associated inverters, mounted on ground-fixed structures.
- BESS pods housed in modular containerised units.
- Control and switchgear building along with supporting electrical infrastructure and cabling.
- New 10-metre-wide access road from Djarindjin - Lombadina Road.
- 10 car parking bays located internally.
- Store/workshop, office and staff amenities, co-located with the main power hub and BESS.
- Internal access tracks, perimeter fencing, drainage and firebreaks, and associated site works.

The back up diesel generation facility will remain in place on the sublease area adjacent to the subject site and will be upgraded and operated by Horizon Power. Horizon power will upgrade the diesel facility to meet the remaining 20% with the facility nearing end of life in 2027.

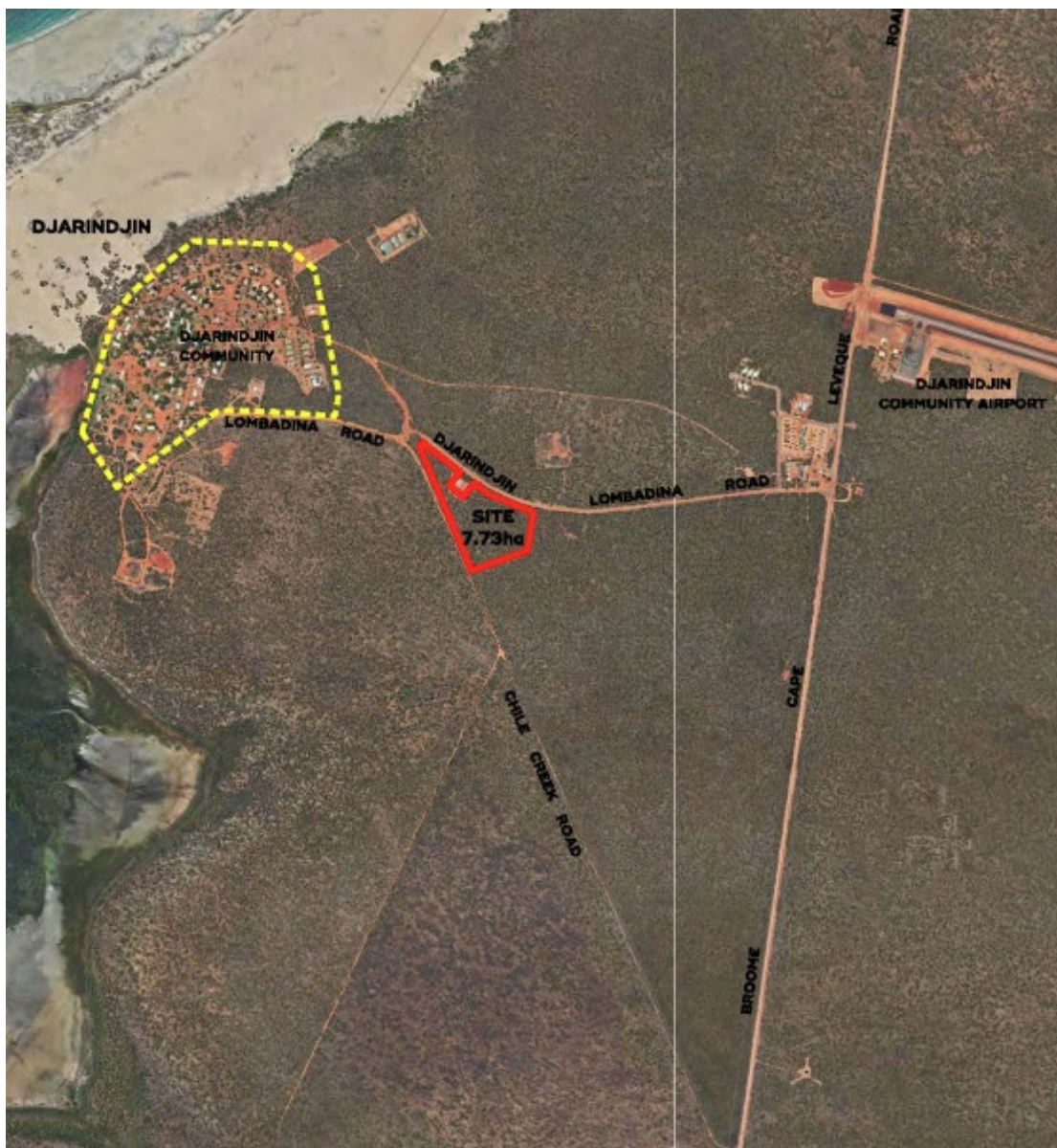


Figure 1 – Location Plan

Proposed Land Use	Renewable Energy Facility
Proposed Net Lettable Area	7.53 hectares
Proposed No. Storeys	1
Proposed No. Dwellings	N/A

**Background:**

The subject site is located within the Djarindjin Community Layout Plan area, approximately 170 km north of Broome on the Dampier Peninsula in the Shire of Broome. It forms part of a broader settlement situated around two kilometres west of Cape Leveque Road, the main north-south route along the Peninsula.

The settlement comprises low-density residential development, community and cultural facilities (including an art centre, camping and tourism operations), and essential service infrastructure

such as an airstrip, police station, and drinking water protection area. The combined population of Djarindjin and Lombadina is approximately 490 people.

The Djarindjin Aboriginal Corporation (DAC) manages extensive land within and surrounding the settlement, including key regional assets supporting the northern Dampier Peninsula. DAC directly oversees the airport, roadhouse, and campground, while its leased land accommodates essential services including the police station, water protection area, and utilities. Djarindjin functions as an integrated service hub, providing housing, education, and community infrastructure for the wider region.

## **Legislation and Policy:**

### Legislation

- Planning and Development Act 2005;
- Planning and Development (Local Planning Schemes) Regulations 2015;

### State Government Policies

- SPP 2.0 – Environmental and Natural Resources Policy
- SPP 3.2 – Aboriginal Settlements
- SPP 3.7 – Planning in Bushfire Prone Areas
- SPP 4.1 - Industrial Interface

### Structure Plans/Activity Centre Plans

- Djarindjin Layout Plan No. 3 – Amendment 15

### Local Policies

- Local Planning Policy 5.3 Miscellaneous Structures

## **Consultation:**

### Public Consultation

Not Applicable – The proposal was not advertised to adjoining neighbours.

### Referrals/consultation with Government/Service Agencies

No referrals were required/received.

### Design Review Panel Advice

Not Applicable.

### Other Advice

Not Applicable.

## **Planning Assessment:**

The proposal has been assessed against all the relevant legislative requirements of the Local Planning Scheme No.7, State and Local Planning Policies, and Djarindjin Layout Plan No.3 outlined in the Legislation and Policy section of this report. The following matters have been identified as key considerations for the determination of this application:

### **Local Planning Scheme No.7**

The application seeks development approval for a 'Renewable Energy Facility' within the Settlement Zone under Local Planning Scheme No. 7 (LPS7). Under LPS7, the permissibility of this land use is to be determined with reference to the endorsed Layout Plan. The proposed development is consistent with the provisions of the Layout Plan, which designates the subject site for 'Public Utility' purposes. This designation provides for land uses such as electricity supply, essential service infrastructure, potable water supply, wastewater disposal, telecommunications, and waste management.

### Special Control Area 8 – Aboriginal Communities

The Aboriginal Communities Special Control Area (SCA 8) aims to identify existing and proposed Aboriginal settlements and to facilitate their orderly and proper development, including areas within or in proximity to settlements that may fall outside the 'Settlement' zone. Development within SCA 8 is required to comply with a Layout Plan prepared in accordance with State Planning Policy 3.2. The proposed development is consistent with the applicable Layout Plan, which designates the subject site for 'Public Utility' purposes. This designation provides for essential services and infrastructure, including electricity supply, essential service distribution networks, potable water supply, wastewater disposal, telecommunications, and waste management.

### Development Standards

Djarindjin Layout Plan No. 3 (Amendment 15) and the Settlement Zone within LPS7 does not provide specific development standards including building heights and setbacks, therefore the development standards will be determined by the local government using the most appropriate zone standard as a guide and in this instance the Cultural and Natural Resource Use Zone is used.

<b>Provision</b>	<b>Requirement</b>	<b>Proposal</b>	<b>Assessment</b>
Local Planning Scheme No.7	<b>Height</b> The height development may not exceed a wall height of ten (10) metres and a building height of fourteen (14) metres.	2.5m Wall height 3m Overall height.	The proposal includes 6 sea containers that will be used for the workshop, office, ablutions and main power hub, these comply with the Scheme provisions.
Local Planning Scheme No.7	<b>Setbacks</b> Primary Street – 30m Side/ Rear – 20m	Primary Street – 80m Side/ Rear – 20m	The sea containers comply with the setbacks requirements in LPS7. The remainder of the proposal includes solar arrays these are not considered buildings and are not included in the assessment.

### Local Planning Policy 5.3 - Miscellaneous Structures

The development is proposing total of 6 sea containers which are located behind the existing Power station and cannot be seen from Lombadina road and setback >50m from Djarindjin Road, the containers are not visible from any adjoining properties. The number and location of the sea containers comply with LPP 5.3

### **Local Planning Strategy**

The Shire of Broome Local Planning Strategy (LPS) provides the planning direction to encourage and facilitate the adoption of renewable energy across the Shire. The application meets the LPS in providing a replacement to the current form of electricity generation.

### **State Planning Policies**

#### State Planning Policy 2.0 – Environmental and Natural Resources Policy

A renewable energy facility at Djarindjin directly supports the policy by providing a renewable power source, reducing reliance on fossil fuels, and contributing to long term community sustainability.

#### State Planning Policy 3.2 – Aboriginal Settlements

The proposed development is consistent with the Layout Plan, as the Guidelines identify the objective of the 'Public Utility' designation as providing land for services and infrastructure essential to the functioning of the settlement. The renewable energy facility directly supports this objective by contributing to the provision of electricity supply, which is a fundamental service. In this context, the development aligns with the range of permitted uses within the 'Public Utility' classification, including electricity supply, essential service distribution networks, potable water supply, wastewater disposal, telecommunications, and waste management.

#### State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7)

SPP 3.7 and its Guidelines do not provide a suitable framework for assessing renewable energy facilities, as many bushfire requirements apply only to habitable buildings. As a result, assessing the Djarindjin-Aalga Goorlil Solar Farm solely against these Guidelines may be inadequate given the development's risk profile. In the absence of a WA-specific framework, the CFA Guidelines have been used, adapted for Western Australia. This assessment is considered to meet the intent of SPP 3.7.

The entirety of the subject site is proposed to be cleared to facilitate the solar arrays, hard stand, internal access roads buildings and carpark.

The BMP had addressed the following issues:

- Post development the BEES pods, distribution pod and office/workshop will be subject to BAL-12.5.
- The solar arrays will be subject to BAL-FZ this is considered acceptable as there is no trigger for solar arrays to be assessed under SPP3.7 and the guidelines. Renewable energy facilities (the Position Statement; WAPC, 2020) states that only a minimum 10 m separation is required between solar panels and classified vegetation, which has been implemented in the proposed development
- An APZ will also be established around the solar panels with a minimum width of 10 m in accordance with the Position Statement.

#### State Planning Policy 4.1 - Industrial Interface

The proposed renewable energy facility is located adjacent to future rural residential lots located to the east, as identified in the Djarindjin Community Layout Plan. These lots are sufficiently separated by a vegetated buffer, resulting in no future amenity impacts.

**Conclusion:**

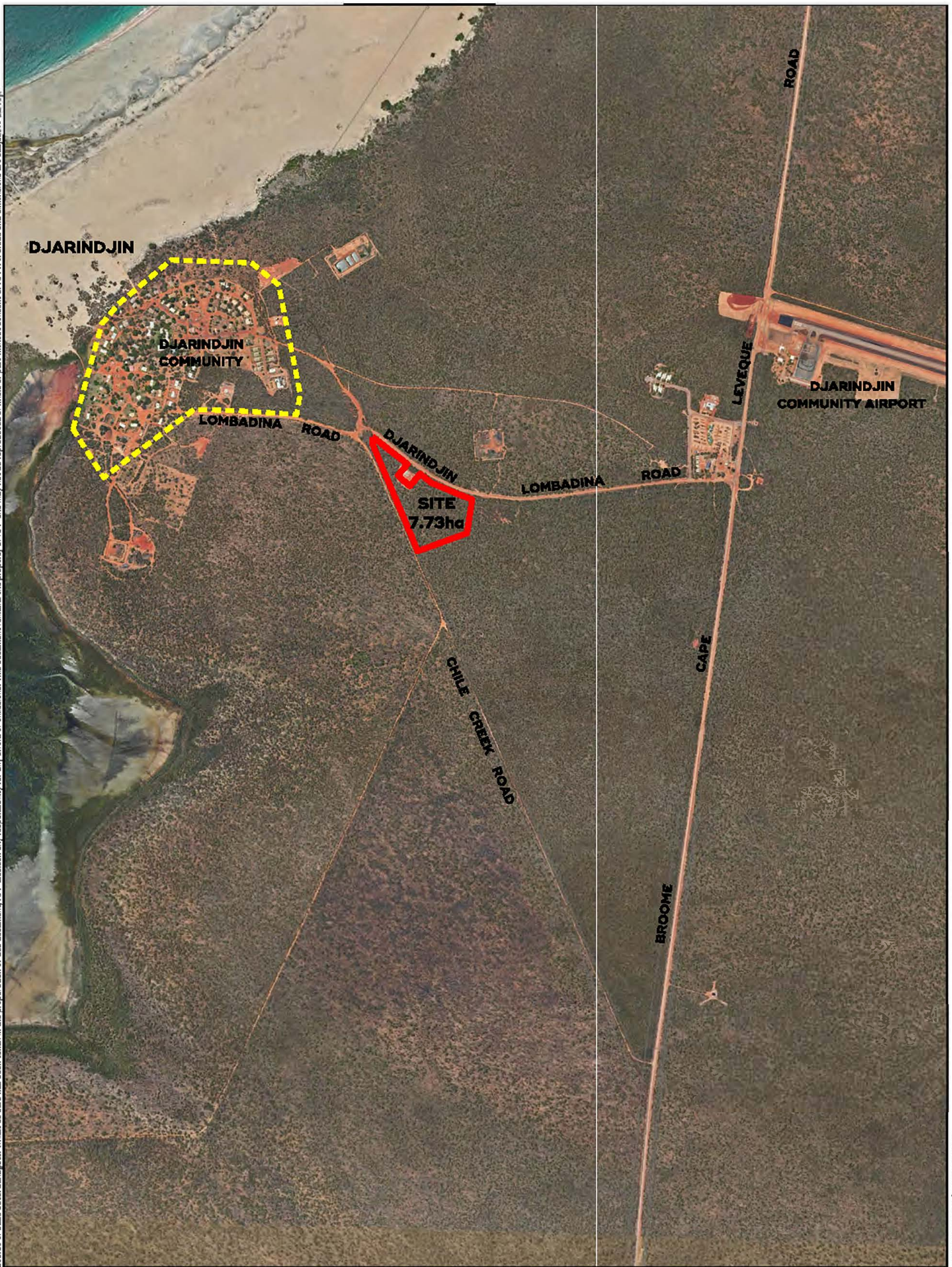
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The Proposal complies with Local Planning Scheme No.7, State Planning Policies and the Shires Local Planning Policies.

Alternatives

N/A

Sources of base data: Landsat. Whilst all care has been taken in the preparation of this document, REF disclaims any responsibility for any errors or omissions. This document remains the property of REF and may not be reproduced in whole or part without consent of REF. All areas and dimensions are subject to survey.



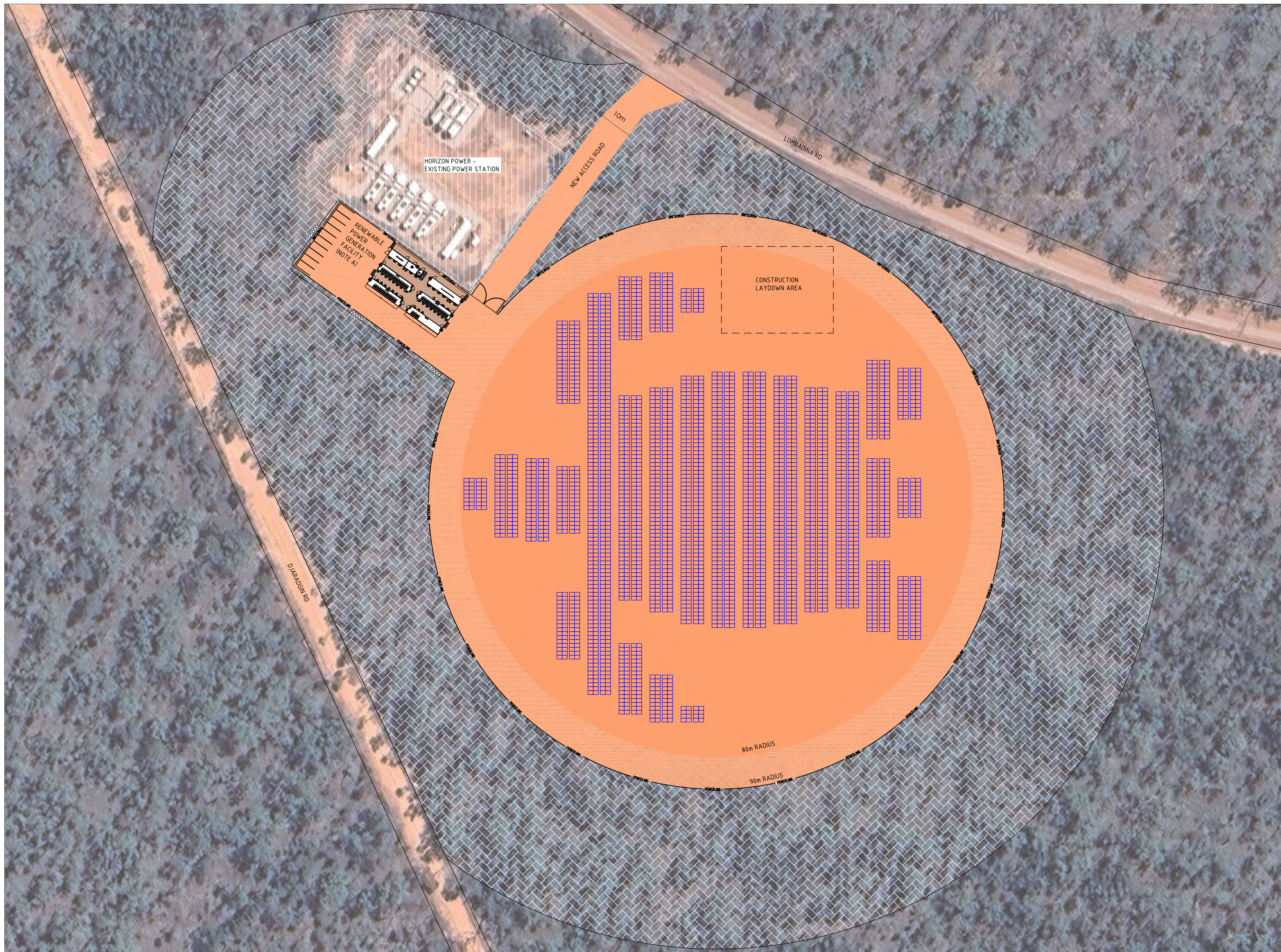
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## LOCAL CONTEXT PLAN

DEVELOPMENT APPLICATION  
DJARINDJIN

FIGURE 2







**GENERAL NOTES:**

1. THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER RFT HPSR682.
2. THIS DRAWING IS ISSUED FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION, CONSTRUCTION OR DETAILED PRICING.
3. ALL EQUIPMENT, CONFIGURATIONS AND LAYOUTS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO CHANGE DURING THE DETAILED DESIGN AND PROCUREMENT PHASES OF THE PROJECT.
4. THIS DESIGN IS BASED ON PRELIMINARY ASSUMPTIONS AND IS SUBJECT TO INPUTS FROM SPECIALIST CONSULTANTS YET TO BE ENGAGED, INCLUDING BUT NOT LIMITED TO STRUCTURAL, CIVIL, GEOTECHNICAL, SCADA, ICT, BUSHFIRE AND FIRE SAFETY ENGINEERS. DRAWINGS DO NOT REPRESENT A COORDINATED MULTI-DISCIPLINARY DESIGN AND SHOULD BE CONSIDERED CONCEPTUAL ONLY.
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6. THIS PACKAGE DOES NOT INCLUDE INPUTS FROM FINAL SYSTEM MODELLING, LOAD FLOW ANALYSIS OR PROTECTION & COORDINATION STUDIES. PERFORMANCE VALUES AND POWER FLOW INFORMATION ARE PLACEHOLDER ONLY.
7. SCADA, RTU, PLC AND METERING DETAILS SHOWN ARE PRELIMINARY AND SUBJECT TO HORIZON POWER OT COMPLIANCE STANDARDS. CONTROL SYSTEM ARCHITECTURE INCLUDING INVERTER DISPATCH LOGIC, BESS CHARGE/DISCHARGE STRATEGIES AND GRID SUPPORT FUNCTIONS ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH HORIZON POWER DURING DETAILED DESIGN.
8. DRAWINGS DO NOT REPRESENT FINAL CONTROL OR PROTECTION SCHEMES. SETTINGS AND TOPOLOGIES WILL BE DEVELOPED DURING THE DETAILED ENGINEERING PHASE IN ACCORDANCE WITH HORIZON POWER TECHNICAL RULES.
9. LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE COMPLETED BASED ON AS/NZS 1768 RISK ASSESSMENT AND SITE CONDITIONS.
10. FINAL PLANT LAYOUT IS SUBJECT TO LAND SURVEY, TOPOGRAPHIC CONSTRAINTS, HERITAGE CONSIDERATIONS, AND ENVIRONMENTAL APPROVALS.
11. FIRE SEPARATION, CONTAINMENT STRATEGIES AND SETBACKS TO BE CONFIRMED FOLLOWING CONSULTATION WITH FIRE ENGINEER AND BUSHFIRE CONSULTANT.
12. ALL CABLE ROUTING, CONDUIT PATHWAYS AND TRENCHING DETAILS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO FINAL SITE LAYOUT, GEOTECHNICAL RESULTS AND STRUCTURAL/ CIVIL DESIGN COORDINATION.
13. SWITCHBOARD DIMENSIONS, RATINGS, IP CLASSIFICATIONS AND INTERNAL ARRANGEMENTS ARE PLACEHOLDERS ONLY. FINAL MANUFACTURER SHOP DRAWINGS TO BE SUBMITTED DURING DETAILED DESIGN.
14. NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

**SPECIFIC NOTES:**

- A. REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.
- B. REFER TO THE DRAWING DAC-RPG-LAY-001 FOR GROUND-MOUNT PV LAYOUT DETAILS.
- C. THE DESIGNATED ASSET PROTECTION ZONE (APZ) HAS BEEN DETERMINED BASED ON A PRELIMINARY HIGH-LEVEL ASSESSMENT.

**LEGENDS:**

-  ASSET PROTECTION ZONE (APZ) - NOTE C
-  HORIZON POWER EXISTING POWER STATION

**SITE GENERAL ARRANGEMENT**  
SCALE 1:600

**PRELIMINARY**

DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY



**AMBORANJ  
POWER**



DRAWING TITLE:  
SITE GENERAL ARRANGEMENT

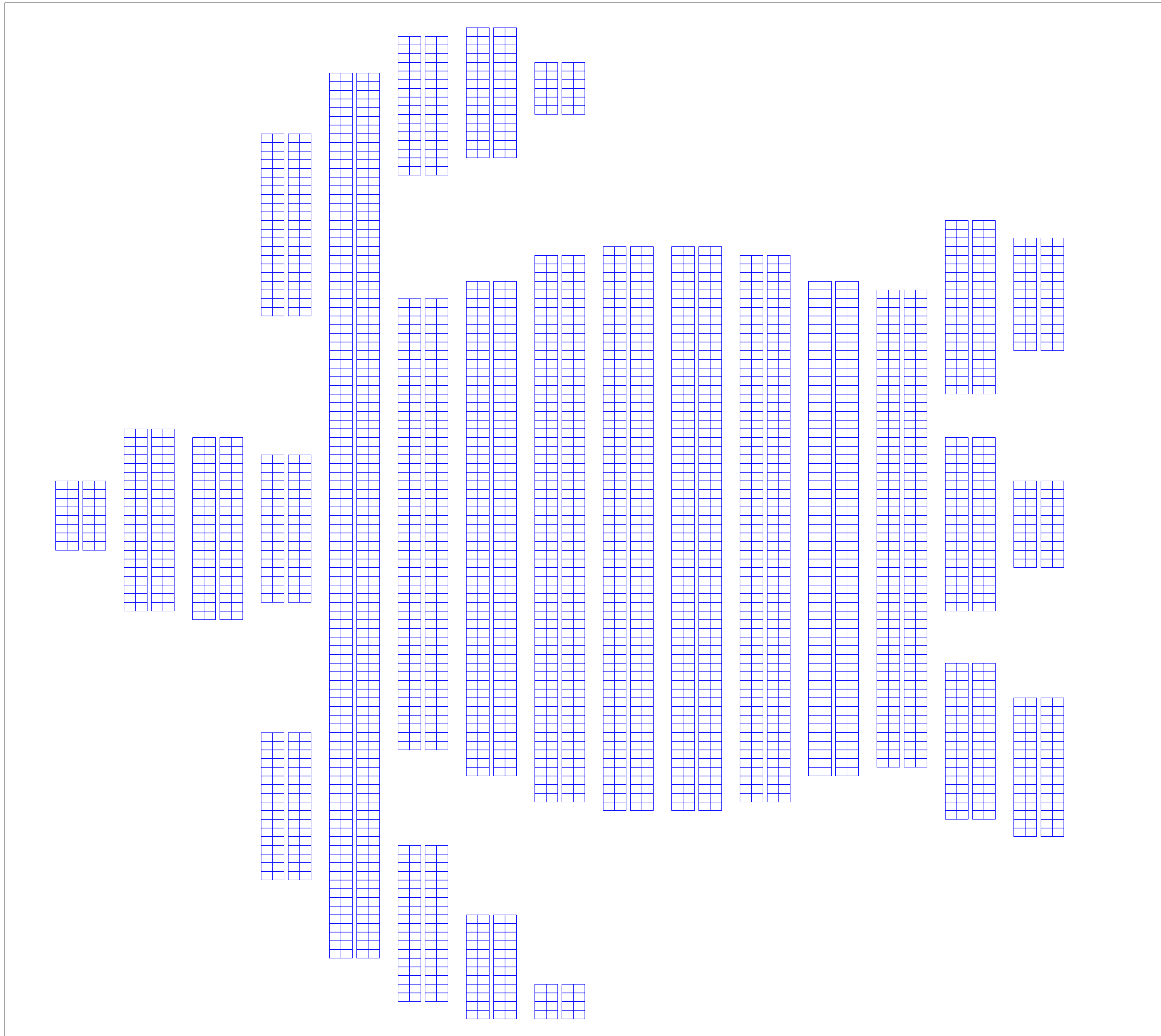
DRAWING NUMBER:  
DAC-RPG-SGA-001

SCALE: 1 : 1 SHEET: 6 OF 14 SIZE: A1

REV	DATE	REVISION DESCRIPTION	DRN	CHK'D	APP'D
A	23.04.25	ISSUE FOR REVIEW	SB	AM	MP

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

A B C D E F G H I J K L



**GENERAL NOTES:**

1. THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER RFT HPSR0682.
2. THIS DRAWING IS ISSUED FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION, CONSTRUCTION OR DETAILED PRICING.
3. ALL EQUIPMENT, CONFIGURATIONS AND LAYOUTS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO CHANGE DURING THE DETAILED DESIGN AND PROCUREMENT PHASES OF THE PROJECT.
4. THIS DESIGN IS BASED ON PRELIMINARY ASSUMPTIONS AND IS SUBJECT TO INPUTS FROM SPECIALIST CONSULTANTS YET TO BE ENGAGED, INCLUDING BUT NOT LIMITED TO STRUCTURAL, CIVIL, GEOTECHNICAL, SCADA, ICT, BUSHFIRE AND FIRE SAFETY ENGINEERS. DRAWINGS DO NOT REPRESENT A COORDINATED MULTI-DISCIPLINARY DESIGN AND SHOULD BE CONSIDERED CONCEPTUAL ONLY.
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7. SCADA, RTU, PLC AND METERING DETAILS SHOWN ARE PRELIMINARY AND SUBJECT TO HORIZON POWER OT COMPLIANCE STANDARDS. CONTROL SYSTEM ARCHITECTURE INCLUDING INVERTER DISPATCH LOGIC, BESS CHARGE/DISCHARGE STRATEGY AND GRID SUPPORT FUNCTIONS ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH HORIZON POWER DURING DETAILED DESIGN.
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14. NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

**SPECIFIC NOTES:**

- A. DESIGN IS BASED ON 3488 x REC470AA PURE-RX 470W SOLAR PANELS.
- B. GROUND-MOUNT SOLAR PV FARM'S DESIGN IS BASED ON 20-DEGREE EAST-WEST DOUBLE-STACKED RACKING ARRANGEMENT, WITH A ROW SPACING OF 2.6 METERS ALLOCATED FOR MAINTENANCE AND ACCESSIBILITY.
- C. FINAL DC DESIGN AND INSTALLATION OF THE PROJECT IS TO BE CERTIFIED BY A SAA ACCREDITED INSTALLER.
- D. REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.
- E. REFER TO THE DRAWING DAC-RPG-001 FOR GENERAL SITE ARRANGEMENTS.

GROUND-MOUNT PV LAYOUT  
SCALE 1:300



**PRELIMINARY**

DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY



**AMBORANJ  
POWER**



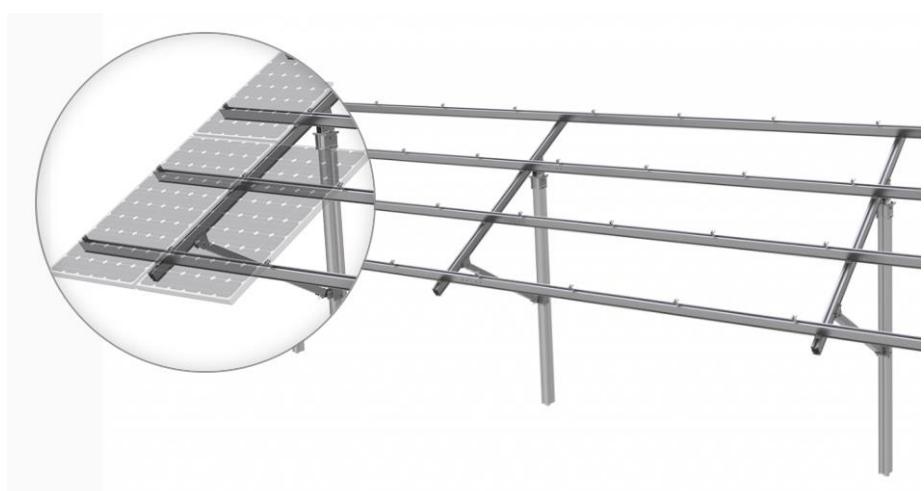
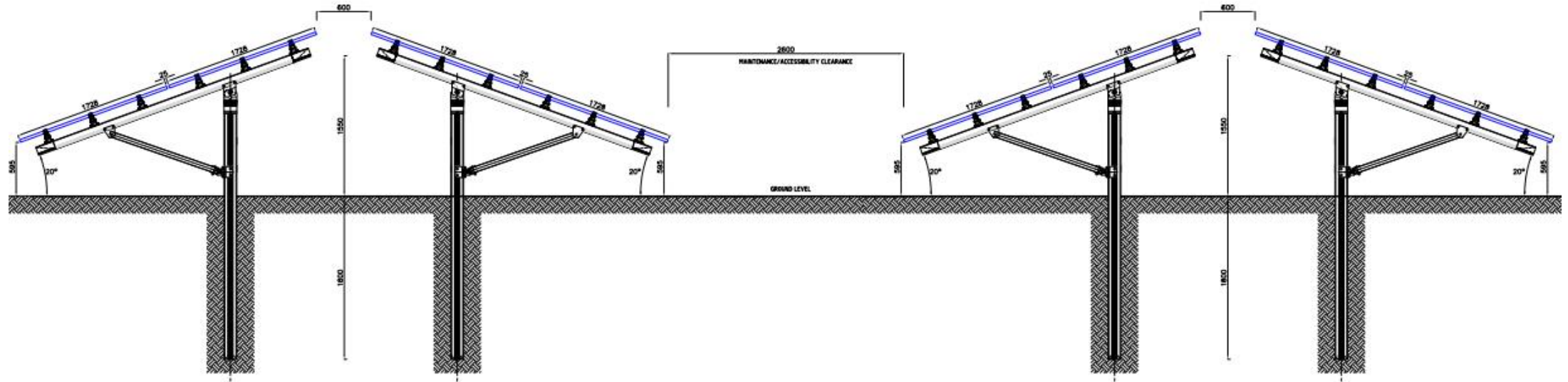
DRAWING TITLE: GROUND-MOUNT PV LAYOUT		
DRAWING NUMBER: DAC-RPG-LAY-001	REV: A	
SCALE: 1 : 1	SHEET: 8 OF 14	SIZE: A1

REV	DATE	REVISION DESCRIPTION	DRN	CHK'D	APP'D
A	23.04.25	ISSUE FOR REVIEW	SB	AM	MP

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### 3.15 PV-ezRack®/MOUNTING SYSTEM/Ground Series/Fixed Tilt/SolarTerrace™ II-A

#### SolarTerrace™ II-A



No concrete used but driven piles only into the ground 1.80m UG  
 (2.8m C post)  
 Cyclone rating Cat "D"

### 3. SOLAR PV FARM

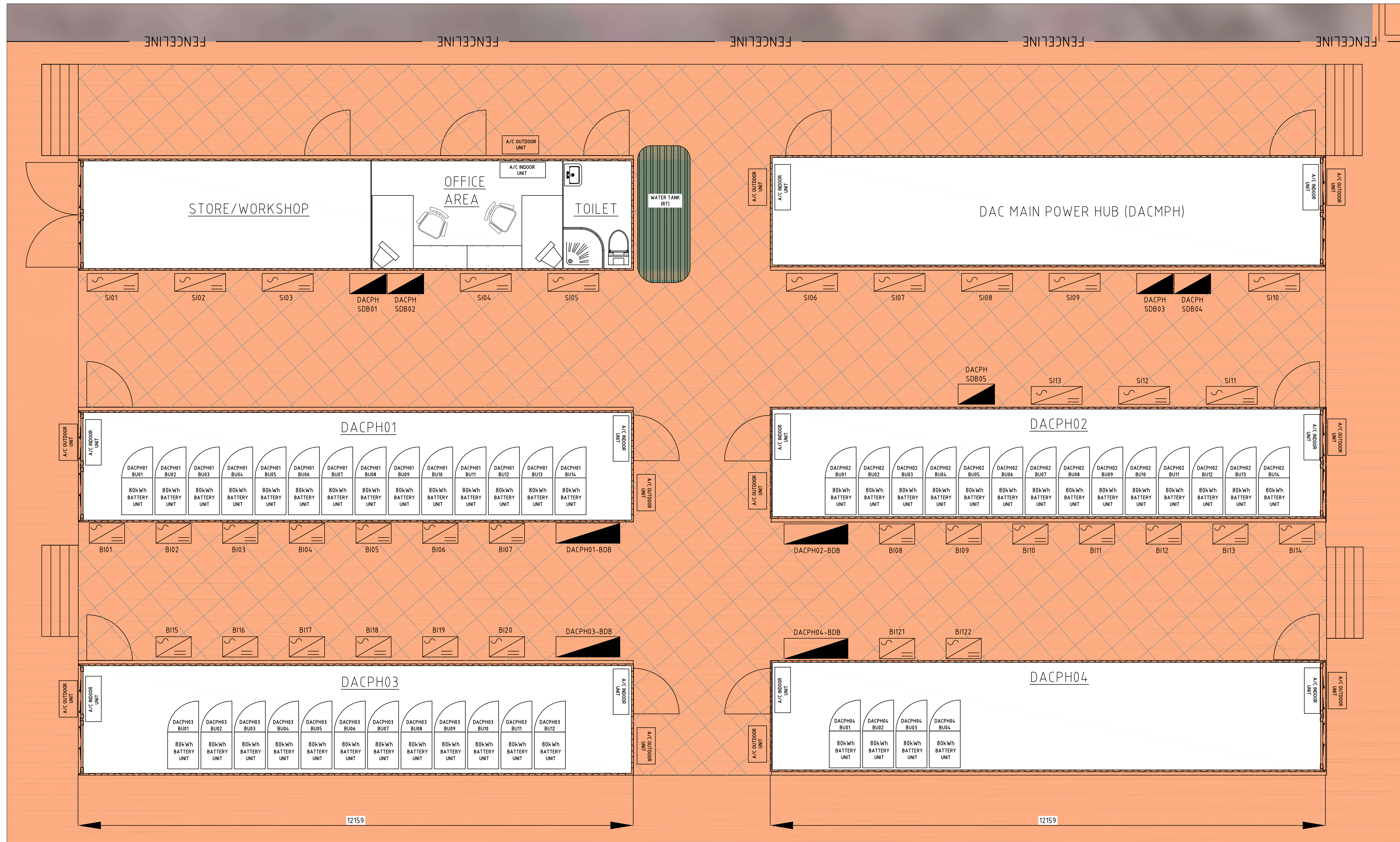
#### 3.15 East-West facing Clenergy mounting structure

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- LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE COMPLETED BASED ON AS/NZS 1768 RISK ASSESSMENT AND SITE CONDITIONS.
- FINAL PLANT LAYOUT IS SUBJECT TO LAND SURVEY, TOPOGRAPHIC CONSTRAINTS, HERITAGE CONSIDERATIONS, AND ENVIRONMENTAL APPROVALS.
- FIRE SEPARATION, CONTAINMENT STRATEGIES AND SETBACKS TO BE CONFIRMED FOLLOWING CONSULTATION WITH FIRE ENGINEER AND BUSHFIRE CONSULTANT.
- ALL CABLE ROUTING, CONDUIT PATHWAYS AND TRENCHING DETAILS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO FINAL SITE LAYOUT, GEOTECHNICAL RESULTS AND STRUCTURAL/CIVIL DESIGN COORDINATION.
- SWITCHBOARD DIMENSIONS, RATINGS, IP CLASSIFICATIONS AND INTERNAL ARRANGEMENTS ARE PLACEHOLDERS ONLY. FINAL MANUFACTURER SHOP DRAWINGS TO BE SUBMITTED DURING DETAILED DESIGN.
- NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

**SPECIFIC NOTES:**

- DESIGN IS BASED ON 13 x SMA STP110-60 110kVA SOLAR INVERTERS.
- DESIGN IS BASED ON 22 x SMA SI-X 50kVA BATTERY INVERTERS.
- DESIGN IS BASED ON 44 x TESVOLTS TS HV30-80 E 80kWh BATTERY UNIT. THESE UNITS ARE PROPOSED TO BE INSTALLED IN STANDARD 40 FOOT SHIPPING CONTAINERS.
- REFER TO THE DRAWING DAC-RPG-SGA-001 FOR SITE GENERAL ARRANGEMENT.



**SITE ARRANGEMENT - RENEWABLE POWER GENERATION FACILITY**  
SCALE 1:45

**PRELIMINARY**

REV	DATE	REVISION DESCRIPTION	DRN	CHK'D	APP'D
A	23.04.25	ISSUE FOR REVIEW	SB	AM	MP

DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY



DRAWING TITLE: SITE ARRANGEMENT – RPG FACILITY	
DRAWING NUMBER: DAC-RPG-SGA-002	REV: A
SCALE: 1 : 1	SHEET: 7 OF 14
SIZE: A1	

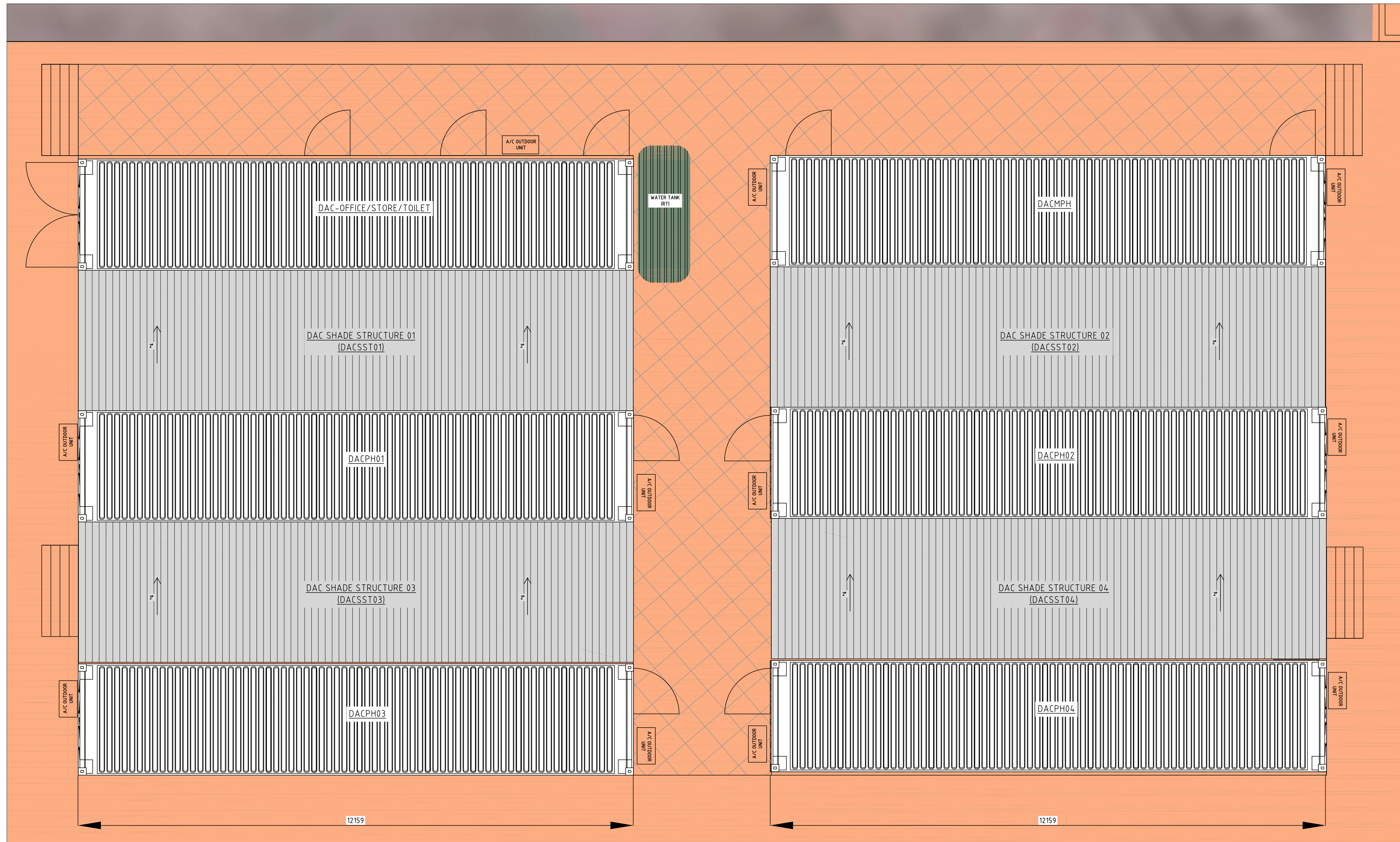
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**GENERAL NOTES:**

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- LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE COMPLETED BASED ON AS/NZS 1768 RISK ASSESSMENT AND SITE CONDITIONS.
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- NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

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- REFER TO THE DRAWING DAC-RPG-SGA-001 FOR SITE GENERAL ARRANGEMENT.
- REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RPG FACILITY - GENERAL ARRANGEMENT DETAILS.



SHADE STRUCTURE - RENEWABLE POWER GENERATION FACILITY  
SCALE 1:45

**PRELIMINARY**

REV	DATE	REVISION DESCRIPTION	DRN	CHK'D	APP'D
A	23.04.25	ISSUE FOR REVIEW	SB	AM	MP

DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY



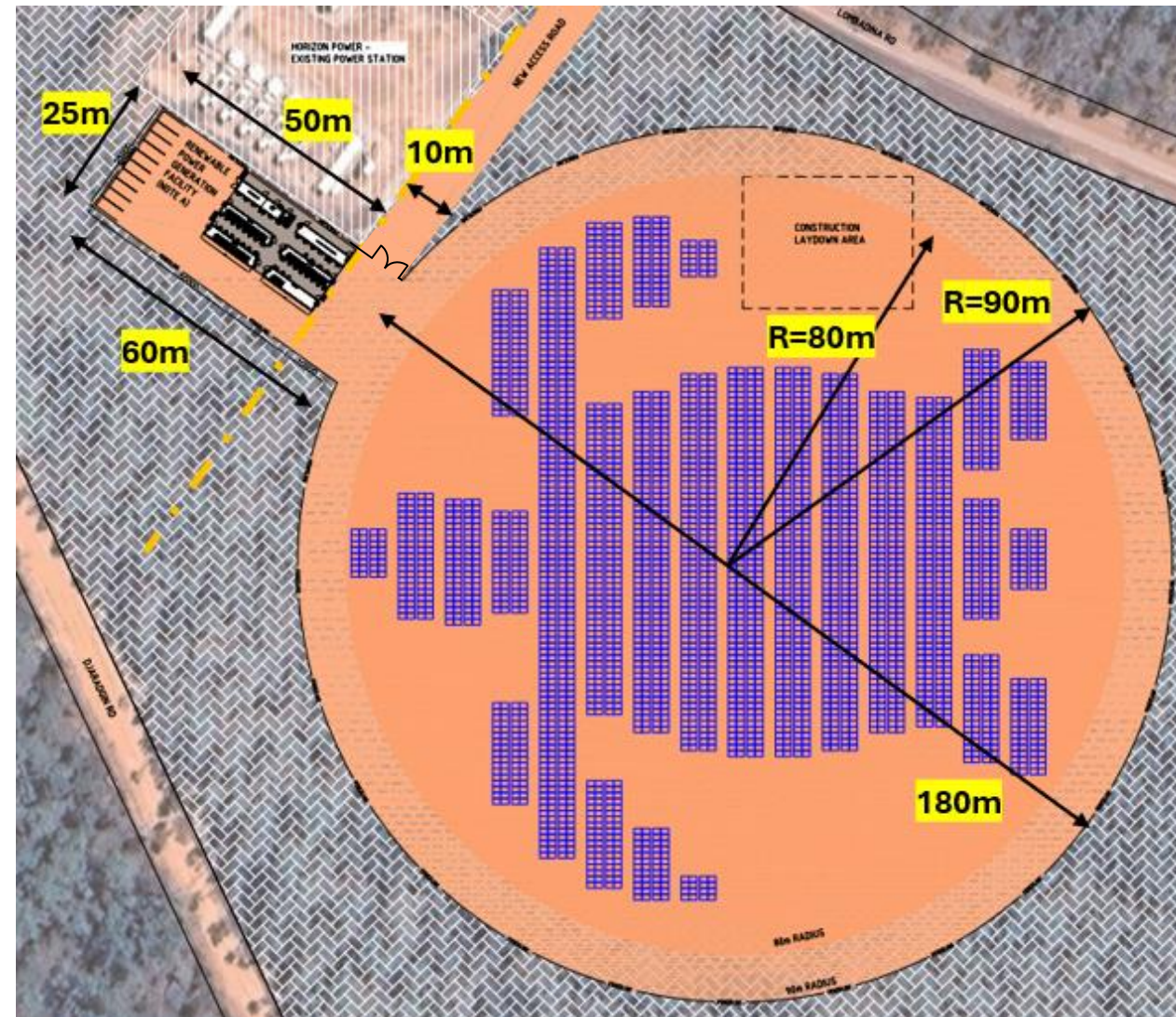
**AMBORANJ  
POWER**



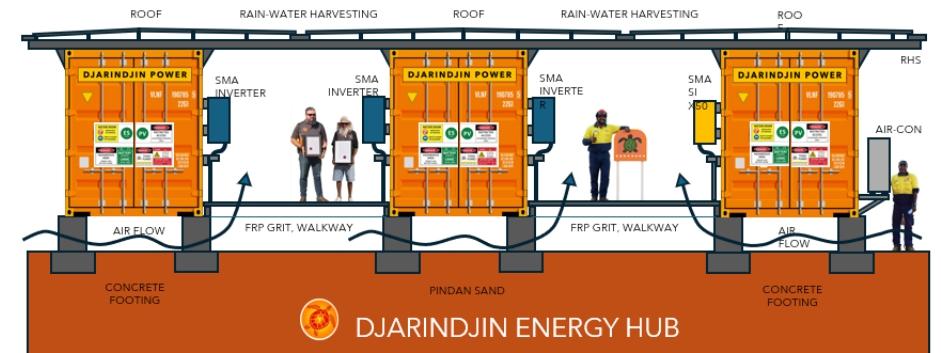
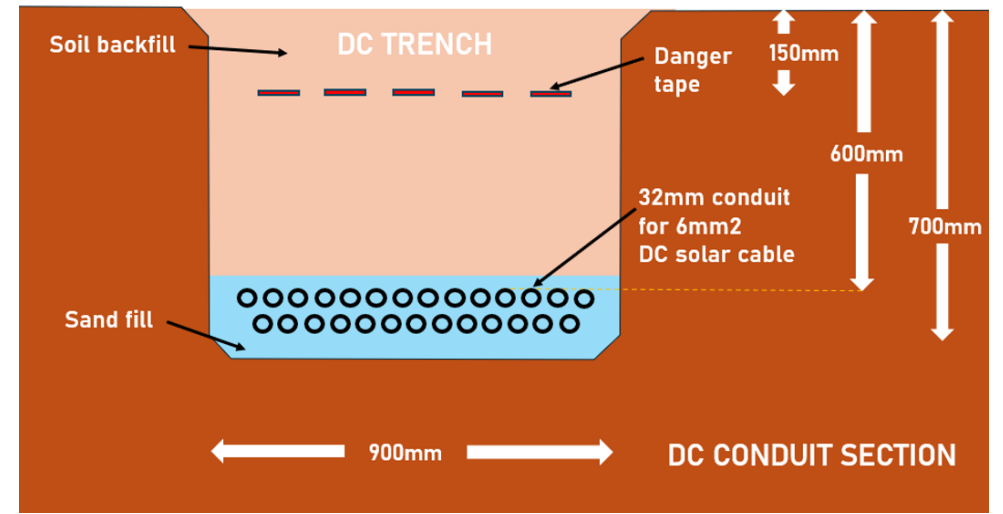
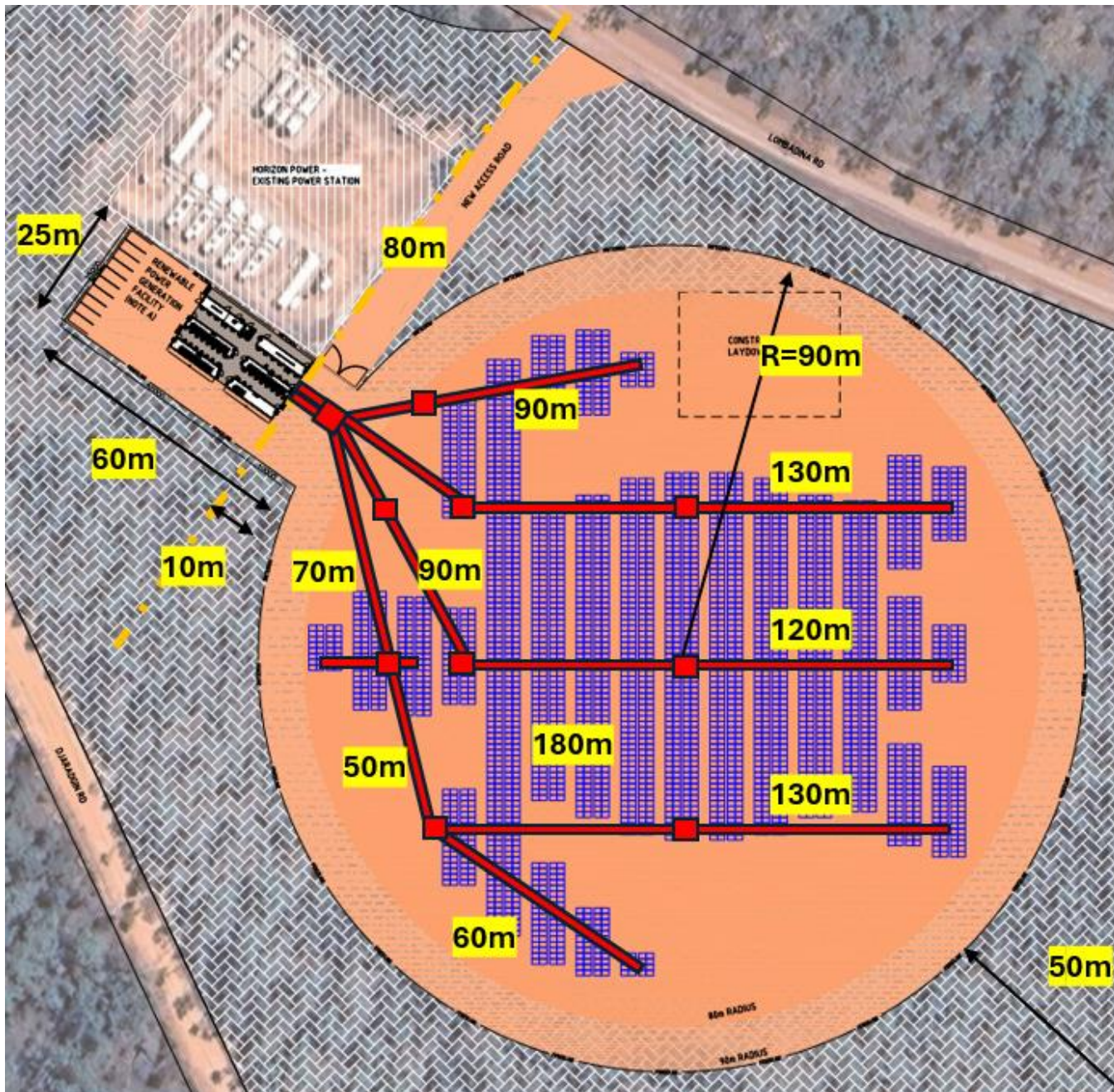
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DRAWING NUMBER: DAC-RPG-SST-001	REV: A
SCALE: 1 : 1	SHEET: 6 OF 14
SIZE: A1	



**Perimeter fencing** (e.g. 2.5m high) length:  $25+50+60m+540=675m$   
 Mesh Heights: 2100, Mesh Sizes: 3.15mm wire (Galvanised, Heavy Duty)  
 Cranked posts, diamond size pitch of 50mm, Barbed wire on top 3 rows  
 Concrete footing 2.8-3m subject to cyclone rating  
**Entry gate 3m+3m** wide opening, 4m fixed part, Total 10m wide

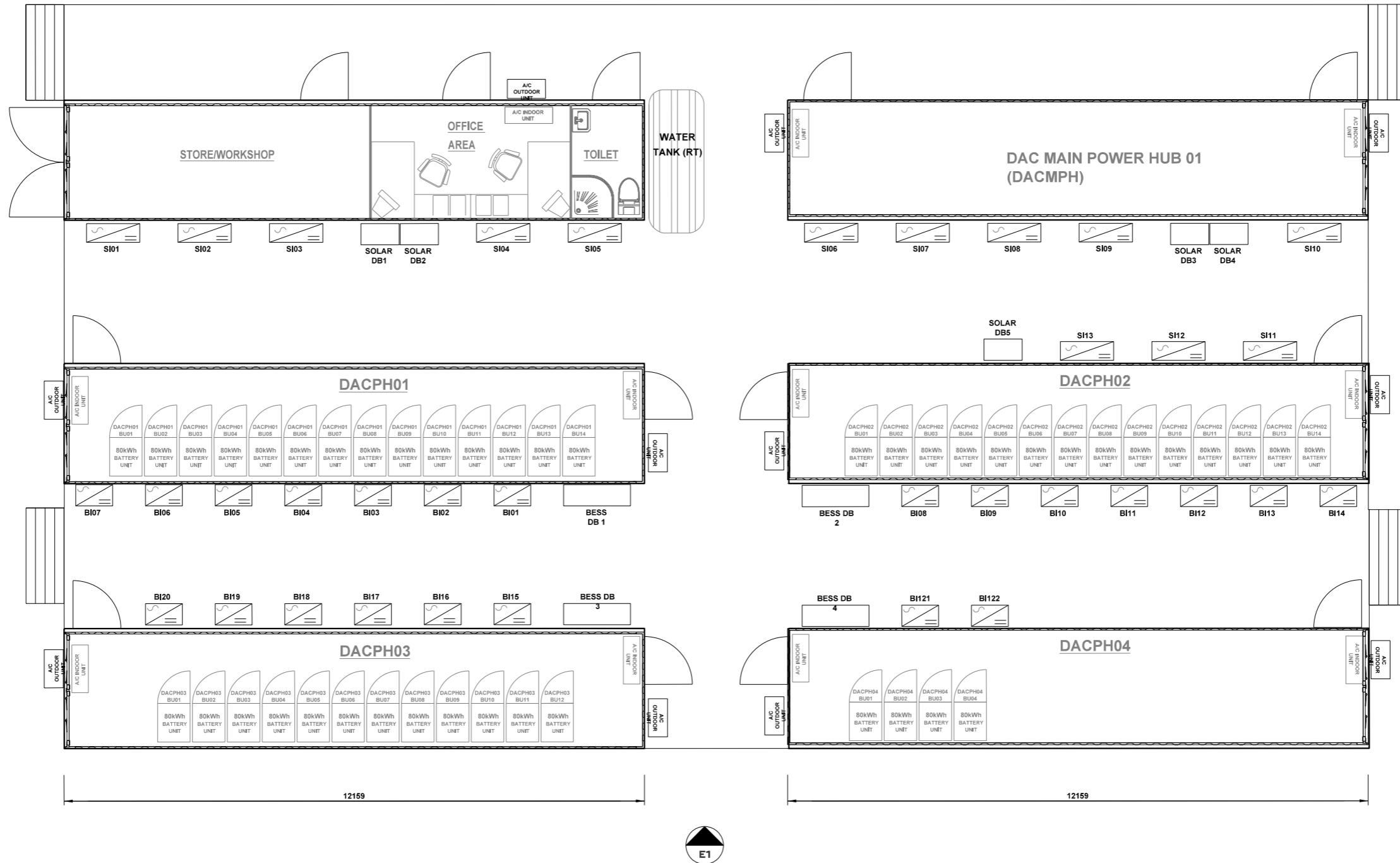


## CIVIL WORKS & STRUCTURAL WORKS 2.14 Fencing



## CIVIL WORKS & STRUCTURAL WORKS

### 2.12 Trenches and manholes



**FLOOR PLAN**  
SCALE 1:100

**DRAFT**

Revision	Date	Details
A	19/1/2026	Initial Issue

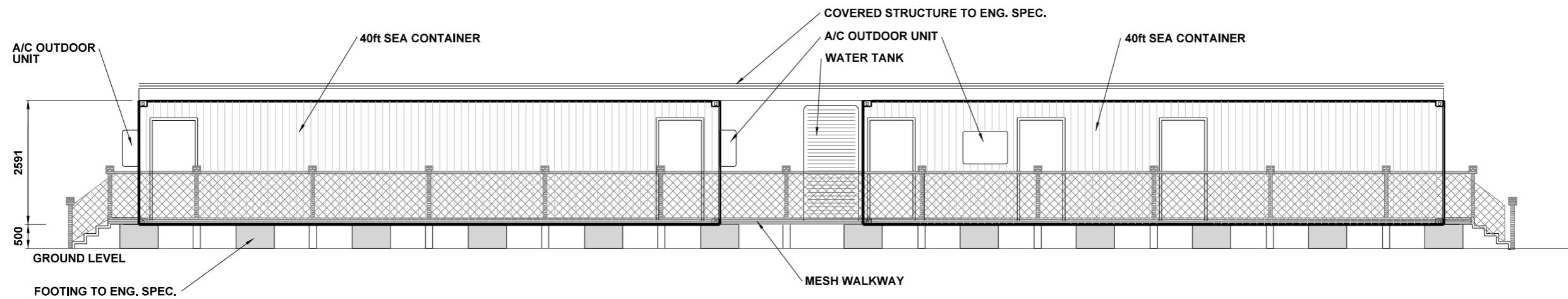


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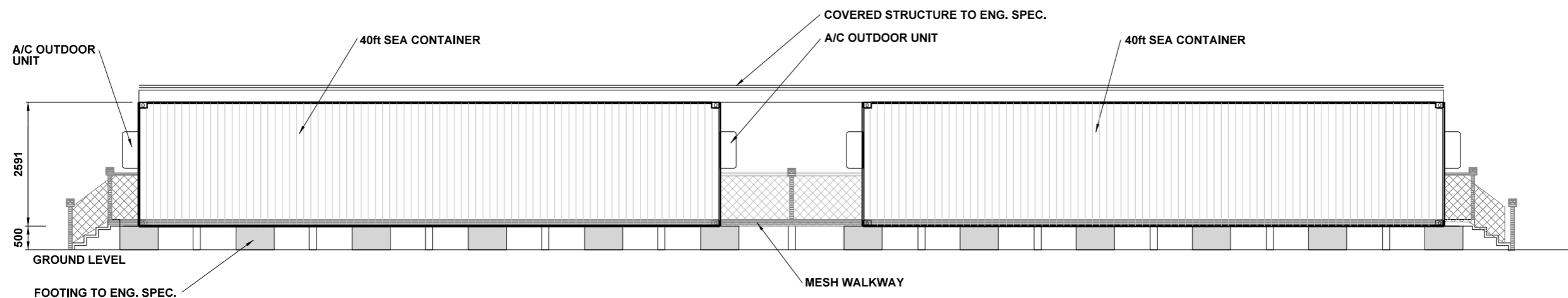
**FLOOR PLAN**  
DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM - AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY

CLIENT : DJARINDJIN ABORIGINAL CORPORATION  
SCALE : 1:100@A3  
DATE : 19 January 2026  
PLAN No : DAC-5-001  
REVISION : A  
PLANNER : TW  
DRAWN : BL





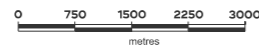
**ELEVATION 1**  
SCALE 1:100



**ELEVATION 2**  
SCALE 1:100

**DRAFT**

Revision	Date	Details
A	19/1/2026	Initial Issue



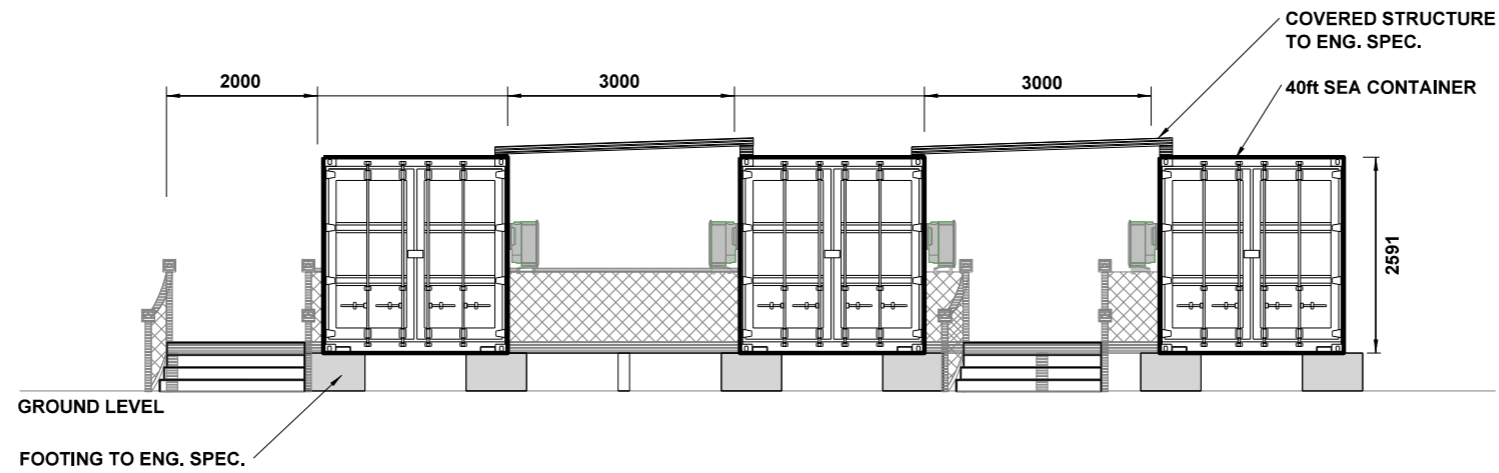
**LEIGHTON**  
CONSULTANTS

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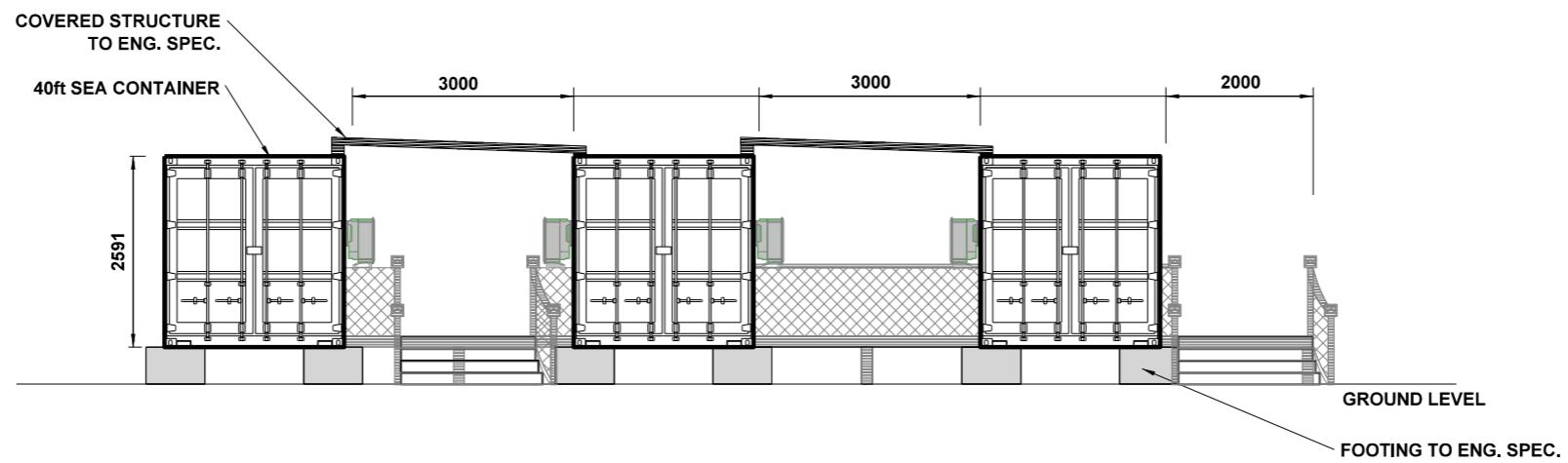
**ELEVATIONS - 1 & 2**  
DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM - AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY

**CLIENT** : DJARINDJIN ABORIGINAL CORPORATION  
**SCALE** : 1:100@A3  
**DATE** : 19 January 2026  
**PLAN No** : DAC-5-001  
**REVISION** : A  
**PLANNER** : TW  
**DRAWN** : BL





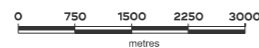
**ELEVATION 3**  
SCALE 1:100



**ELEVATION 4**  
SCALE 1:100

**DRAFT**

Revision	Date	Details
A	19/1/2026	Initial Issue



**LEIGHTON**  
ARCHITECTS

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**ELEVATIONS - 3 & 4**

**DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM - AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY**

**CLIENT** : DJARINDJIN ABORIGINAL CORPORATION  
**SCALE** : 1:100@A3  
**DATE** : 19 January 2026  
**PLAN No** : DAC-5-001  
**REVISION** : A  
**PLANNER** : TW  
**DRAWN** : BL





# Development Application

Proposed Renewable Energy Facility – Aalga Goolil Djarindjin  
Community Power Project

December 2025

[RFFAUSTRALIA.COM](http://RFFAUSTRALIA.COM)



## Document Control

**Project:** Proposed Renewable Energy Facility – Aalga Goolil Djarindjin Community Power Project

**Client:** Djarindjin Aboriginal Corporation and Aalga Goolil Djarindjin Community Power Pty Ltd

**Client Contact:** Nathan McIvor

## Version Control

Version	Date	Changes	Authorisation
0	12.08.2025	Draft documentation	SOL
0.1	25.11.2025	Updates and modification	SOL
1.0	26.11.2025	Client Issue	OH



## Executive Summary

This Development Application seeks approval for the Aalga Goolil Djarindjin Community Power Project (DCP Project), a renewable-energy facility proposed by the Djarindjin Aboriginal Corporation (DAC) and to be developed and owned via its wholly owned subsidiary, Aalga Goolil Djarindjin Community Power Pty Ltd (AG), on Lot 297 on Deposited Plan 93256 in respect of which DAC is the registered lessee. The DCP Project will establish Western Australia's first 100% Indigenous-owned and operated solar-battery power station, supplying 80% renewable electricity to the Djarindjin and Lombadina communities, and significantly displacing the use of the ageing Horizon Power diesel plant. The diesel power plant will be operated by Horizon Power separately to meet the balance of supply.

The development occupies approximately 7.53 hectares between Chile Creek Road and Lombadina Road reserve and comprises a 1.6 MWp solar PV array, 3.52 MWh battery energy storage system, control building, internal access roads, firebreaks, drainage and associated site works (Aalga Goolil Power Station). The Aalga Goolil Power Station will connect to the existing Djarindjin-Lombadina microgrid at the existing Djarindjin power station, and operate in both grid-connected and islanded modes, supporting long-term energy security, reduced diesel usage and costs, and will create new local training and employment opportunities. The ageing diesel facility will be upgraded in parallel by Horizon Power before it reaches end of life.

The proposal has been shaped through extensive consultation with DAC members, the Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC (Bardi Jawi PBC), Lombadina Aboriginal Corporation, Horizon Power, the Shire of Broome, funding bodies and State agencies. Djarindjin Layout Plan 3 Amendment No. 15, reclassifying the site to Public Utility, was prepared to enable the DCP Project and has been approved.

A comprehensive assessment demonstrates that the DCP Project is consistent with the strategic and statutory planning framework, including the Dampier Peninsula Planning Strategy, Shire of Broome Local Planning Strategy, State Planning Policies (SPP 2.0, 2.5, 3.2, 3.7 and 4.1), the WAPC's Renewable Energy Facilities Position Statement, and the Djarindjin Layout Plan No. 3. The Aalga Goolil Power Station is compatible with its surroundings, located adjacent to previously disturbed land with existing utilities infrastructure, and suitably separated from sensitive uses.

Environmental, bushfire, engineering and heritage assessments confirm the site is suitable for development, with impacts effectively mitigated through the Native Vegetation Clearing Permit, Bushfire Management Plan, Construction Environmental Management Plan and the Heritage Protection Agreement with the Bardi Jawi PBC. A Glint and Glare assessment also confirms no unacceptable risks to aviation or road users.

Overall, the DCP Project represents orderly and proper planning and delivers critical community infrastructure that advances Aboriginal self-determination, sustainability and economic resilience. The proposal is well supported by policy, technically feasible, environmentally responsible, and aligned with community aspirations. Approval is therefore respectfully sought.



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## 1 Introduction

RFF Australia (RFF) act on behalf of the Proponent, Djarindjin Aboriginal Corporation (DAC) and its wholly owned subsidiary Aalga Goolil Djarindjin Community Power Pty Ltd (AG) (with DAC and AG referred to generally as the 'Proponent') with respect to the proposed development of Lot 297 on Deposited Plan 93256, encompassing land positioned between Chile Creek Road and Lombadina Road reserve (**the subject site**). RFF submit the following Development Application to obtain land use and development approval for the proposed Aalga Goolil Djarindjin Community Power Project (DCP Project).

The DCP Project is a transformative renewable energy initiative aimed at delivering Western Australia's first 100% Indigenous-owned solar-battery power station. Located in the Djarindjin Aboriginal Layout Plan area on the Dampier Peninsula, the DCP Project will supply 80% renewable electricity to the Djarindjin and Lombadina communities, significantly displacing the use of the ageing Horizon Power diesel plant, while supporting long-term energy security, reducing diesel usage and costs, and creating new local training and employment opportunities.

This report includes the following justification and details in support of the proposal:

- Description of the site and existing land use.
- Detailed explanation of the proposed use and development of the land.
- Overview of the relevant planning issues.
- Justification for the proposed development.
- Supporting technical appendices.

The following multidisciplinary project team has been engaged by the Proponent to progress the proposed development:

<b>Discipline</b>	<b>Consultant</b>
<b>Town Planning</b>	RFF Australia
<b>Bushfire</b>	Western Environmental
<b>Stormwater &amp; Engineering</b>	Porters Engineering
<b>Environment</b>	Western Environmental
<b>Heritage</b>	RFF Australia
<b>Glint &amp; Glare</b>	Aviation Projects
<b>Site survey</b>	MNG
<b>Technical &amp; delivery partner</b>	Amboranj Power Pty Ltd

### 1.2 Pre-lodgement Consultation

Unlike an external proponent developing a microgrid for private profit, DAC as the entity initiating the DCP Project, is a registered charity and represents and is governed by the community it serves. Accordingly, its engagement approach, and that of its wholly owned subsidiary AG, is embedded within its governance structures. Consultation has occurred primarily through DAC's Board, members, and officers, who collectively guide decisions regarding the DCP Project's goals, benefits, delivery model, location, partners, and opportunities for collaboration and empowerment.



In identifying and engaging relevant stakeholders, DAC and AG have community engagement and knowledge sharing plans, which set out specific engagement pathways for local and regional partners. These include the Lombadina community, other remote communities across the Dampier Peninsula, the Kimberley Regional Aboriginal Community Leaders Network, and the Bardi Jawi PBC.

This proposal has therefore been informed and shaped by extensive stakeholder consultation, including the following:

**Table 1 - Stakeholder Engagement Summary**

Stakeholder	Engagements
Djarindjin Aboriginal Corporation (DAC)	<ul style="list-style-type: none"> <li>Leaseholder and primary community partner.</li> <li>Ongoing engagement through regular Board meetings, workshops, and correspondence since DCP Project inception.</li> <li>DAC has guided site selection, project design, governance structure, and community benefit-sharing arrangements.</li> <li>The DCP Project directly supports DAC's broader community, cultural, and economic development objectives and its 20-year strategic plan.</li> <li>DAC has established a wholly owned subsidiary in AG to develop own and operate the facility.</li> </ul>
Djarindjin Community Members	<ul style="list-style-type: none"> <li>Community information and consultation sessions held to introduce the project and gather feedback on renewable energy benefits, potential employment, and local impacts.</li> <li>Community feedback has been supportive, with emphasis on training, job creation, and long-term community control over energy assets.</li> </ul>
Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC (Prescribed Body Corporate)	<ul style="list-style-type: none"> <li>Early and ongoing consultation undertaken with the Bardi Jawi PBC to ensure heritage requirements are appropriately managed.</li> <li>A binding Heritage Protection Agreement has been executed, and a heritage survey was undertaken in 2025.</li> <li>PBC support was secured for Amendment No.15 to Djarindjin Layout Plan No.3 in 2025.</li> </ul>
Shire of Broome	<ul style="list-style-type: none"> <li>Preliminary discussions undertaken to confirm planning requirements and ensure alignment with the Shire's strategic and statutory frameworks.</li> <li>Consultation undertaken in relation to Amendment No.15 to Djarindjin Layout Plan No.3, facilitating the change of land use from <i>Open Space</i> to <i>Public Utility</i>.</li> </ul>
Lombadina Aboriginal Corporation	<ul style="list-style-type: none"> <li>Provided a formal letter of support in May 2024 for the proposal.</li> <li>Ongoing engagement and MOU in place focused on identifying local employment, training, and contracting opportunities.</li> </ul>
Horizon Power	<ul style="list-style-type: none"> <li>DAC has been in discussions with Horizon Power for several years regarding the transition from 100% diesel generation (the existing diesel facility approaching end of life in 2027) to a hybrid solar-diesel generation outcome.</li> </ul>



	<ul style="list-style-type: none"> <li>• DAC’s CEO has met with Horizon Power’s technical, project, and executive leaders, including the CEO.</li> <li>• Horizon Power has provided an in-principle letter of support for the community-owned solution and supplied a template Power Purchase Agreement (PPA) for DAC’s review.</li> <li>• A Confidentiality Agreement and MOU have been executed, and ongoing discussions are progressing towards a final PPA.</li> </ul>
Department of Planning, Lands & Heritage	<ul style="list-style-type: none"> <li>• Engagement undertaken regarding planning pathways and endorsement of Amendment No.15 to Djarindjin Layout Plan No.3.</li> <li>• DPLH has confirmed support for the DCP Project within the area of the lease.</li> <li>• Ongoing liaison on statutory and heritage approvals associated with DCP Project delivery.</li> </ul>
ARENA (Australian Renewable Energy Agency) and other funding bodies	<ul style="list-style-type: none"> <li>• Engagement through the ARENA funding process, including submission of the Feasibility Study and Full Application, with the DCP Project passing the assessment panel phase and a Board decision expected in December 2025.</li> <li>• The DCP Project has been awarded a conditional grant through the Lower Carbon Grant funded by the Gorgon JV and administered by the Department of Energy and Economic Diversification. Funding agreement is awaiting final execution.</li> <li>• Other funding discussions are ongoing to meet the balance of requirements, including with the Indigenous Land and Sea Corporation and Indigenous Business Australia.</li> </ul>
Engineering, Procurement and Construction companies (EPC)	<ul style="list-style-type: none"> <li>• Suitable EPC companies to develop the Aalga Goolil Power Station have been engaged through EOI and RFQ processes, which will advance to RFT in early 2026.</li> </ul>
State Government & Agencies	<ul style="list-style-type: none"> <li>• Engagement held with WA parliamentarians, relevant State Ministers, and the Member for Kimberley to align the project with State decarbonisation and Indigenous empowerment objectives.</li> <li>• Various State agencies consulted as part of due diligence and preparation of technical, planning, and environmental documentation supporting the Development Application.</li> </ul>

The consultation undertaken to date demonstrates DAC’s commitment to maintaining open and ongoing dialogue with key stakeholders, and to ensuring the project’s successful and collaborative delivery.

## 2 Site Description

### 2.1 Local Context

The subject site is located within area of the Djarindjin Community Layout Plan, approximately 170 kilometres north of Broome on the Dampier Peninsula in the Shire of Broome. Together with the adjoining Lombadina Aboriginal Community and Lombadina Mission, it forms part of a broader settlement area situated about two kilometres west of Cape Leveque Road, the main north–south route along the Peninsula.

The settlement area is characterised by low-density residential living, community and cultural facilities such as the art centre, camping and tourism operations, and essential service infrastructure including the airstrip, multi-function police station, and a drinking-water protection area. The combined population of Djarindjin and Lombadina is approximately 490 people.

The Djarindjin Aboriginal Corporation (DAC) holds and manages extensive land within and surrounding the settlement, encompassing key regional assets that service the northern Dampier Peninsula. It directly manages the Djarindjin Airport, Djarindjin Roadhouse and Campground. Its lease also houses a multi-function police station, water protection area, and other utilities supporting both Djarindjin and Lombadina. The Djarindjin community functions as an integrated service hub, providing housing, education, and community infrastructure for the wider region.



Source: Djarindjin Aboriginal Corporation

Source of base data: Landgate. Whilst all care has been taken in the preparation of this document, RFF disclaims any responsibility for any errors or omissions. This document remains the property of RFF and may not be reproduced in whole or part without consent of RFF. All areas and dimensions are subject to survey.



DJAR-5-001.dgn / 5 MARCH 2025

**REGIONAL LOCATION**  
DEVELOPMENT APPLICATION  
DJARINDJIN  
**FIGURE 1**



## 2.2 Legal Description

The subject site is legally known as Lot 297 on Deposited Plan 93256. The lot particulars are described in the table below. It is the subject of a special lease between DAC as lessee and the State of Western Australia (via the Minister for Lands) as the lessor (registered as I126915).

**Table 2 – Lot Particulars**

Lot	Address	Area (Ha)	Plan	Vol/Folio	Proprietor
297	Broome–Cape Leveque Road	~55,572 ha	PO93256	LR3123/260	State of Western Australia

Refer, Appendix A – Certificate of Title.

In addition to the cadastral description, the subject site forms part of the Djarindjin Layout Plan No. 3 (LP3), which sets out the settlement’s internal lot arrangement and future growth framework. Within LP3, the subject portion of land is identified as Lot 1039 and 1040, located at the corner of Djarindjin–Lombadina Road and Chile Creek Road. While Lot 1040 is not required to accommodate the physical infrastructure of the Aalga Goolil Power Station, it forms part of the development footprint proposed where required for clearing purposes in connection with the native vegetation clearing permit and bushfire management plan, or for provision of access and services to Lot 1039.

## 2.3 Site Details

Lot 1039 comprises approximately 7 hectares and currently accommodates the existing Horizon Power diesel power station which is demarcated as part of their sublease. The proposed Aalga Goolil Power Station is to be located within the boundary of the same Lot 1039 immediately east of the existing facility (**Appendix C – Development Plans**). The site is predominantly vegetated, with clearing limited to the area occupied by the Horizon Power infrastructure and its sublease.

Surrounding land uses are predominantly undeveloped Crown land and remnant native vegetation, with limited clearing evident. LP3 designates nearby zones for residential, community, utility, open-space, and cultural purposes. The area outside the special lease to the west of the subject site comprises the community lands of DAC, which are four Crown reserves managed by the Aboriginal Lands Trust.

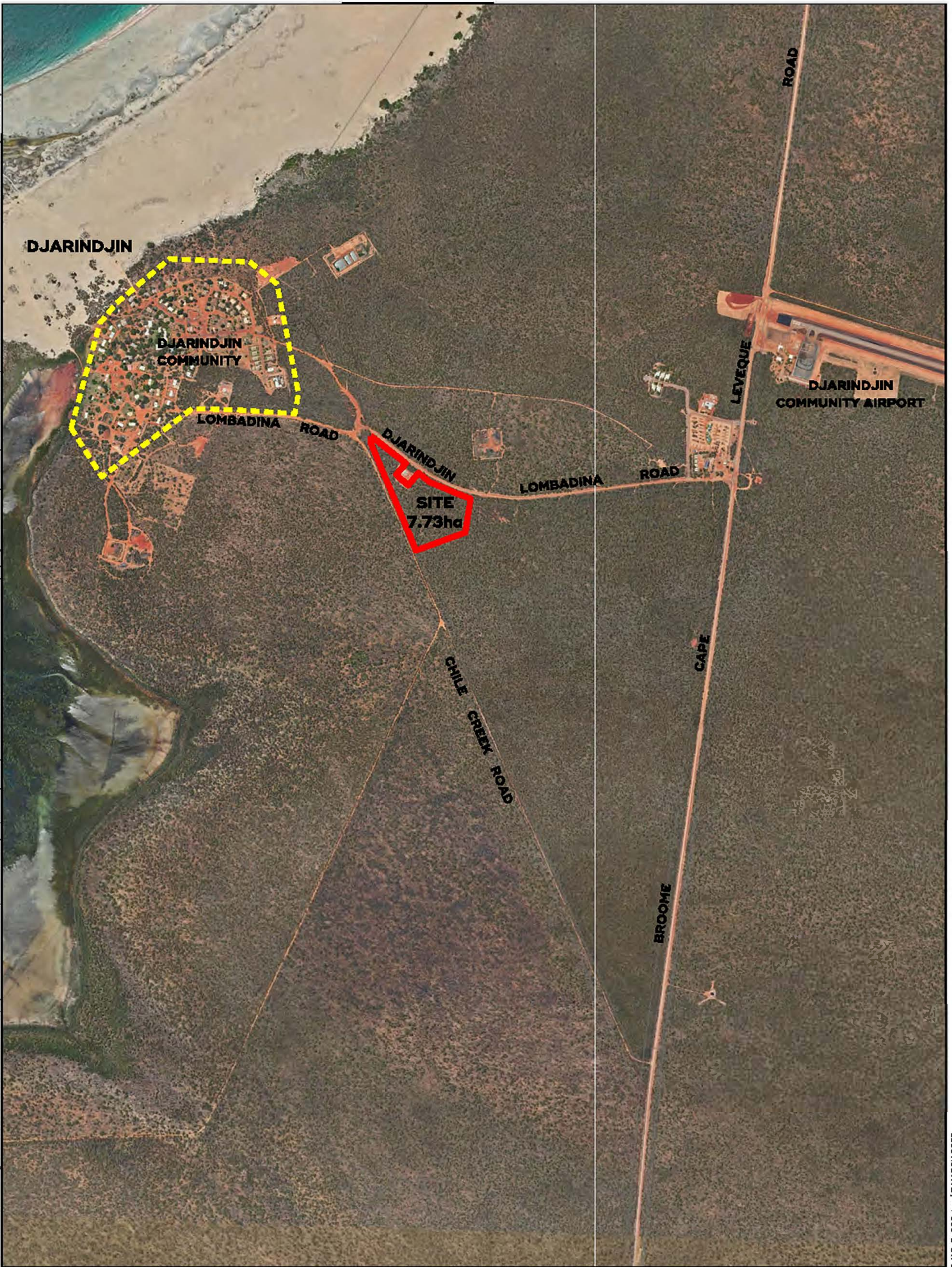
Adjacent and nearby land uses include:

- Residential-zoned land approximately 30 metres east (not yet developed).
- Community-zoned land approximately 310 metres north-west.
- Cemetery reserve approximately 120 metres south (of the proposed solar panels), separated by a cleared asset protection zone and vegetation buffer.
- Rubbish-disposal site approximately 120 metres north-east.

The site also falls within a 200-metre power-station exclusion boundary identified under Layout Plan No. 3. This has been considered in the site design to minimise potential amenity impacts.

The locality is serviced by a network of sealed access roads, including the Broome–Cape Leveque Road, which connects Djarindjin and Lombadina to other northern Dampier Peninsula communities such as Beagle Bay (60 km south) and Ardyaloon / One Arm Point (26 km north). The existing Horizon Power diesel power station currently supplies electricity to the settlement but is nearing the end of its operational life—driving the need for the new community-owned renewable energy facility proposed as part of the DCP Project.

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DJAR-5-002.dgn / 5 MARCH 2015

## LOCAL CONTEXT PLAN

DEVELOPMENT APPLICATION  
DJARINDJIN

FIGURE 2



## 2.4 Land Tenure

In 1991, DAC was granted a Crown Lease over approximately 56,727 hectares of land. The DCP Project site is located within this lease area, which is held by DAC until 2041. It was varied in 2009 to remove condition 5 of the lease (K825241 XE) and was subject to a partial surrender linked to the widening of the Broome-Cape Leveque Road in 2020 (O546940 S).

A sub-lease of a portion of this land was executed in September 2006 (Landgate Doc ID: J966230) to Horizon Power for the construction and operation of the existing diesel generation facility. Horizon Power subsequently executed a further sub-lease to Energy Generation Pty Ltd in October 2006 (Landgate Doc ID: KO56672). This sublease area does not house the subject site for DCP Project but is adjacent to it.

As noted above, the subject site forms part of the LP3 and is identified as Lot 1039, located at the corner of Djarindjin-Lombadina Road and Chile Creek Road. While Lot 1040 of LP3 is not required to accommodate the physical infrastructure of the Aalga Goolil Power Station, it forms part of the development footprint proposed where required for clearing purposes in connection with the native vegetation clearing permit and bushfire management plan, or for provision of access and services to Lot 1039.

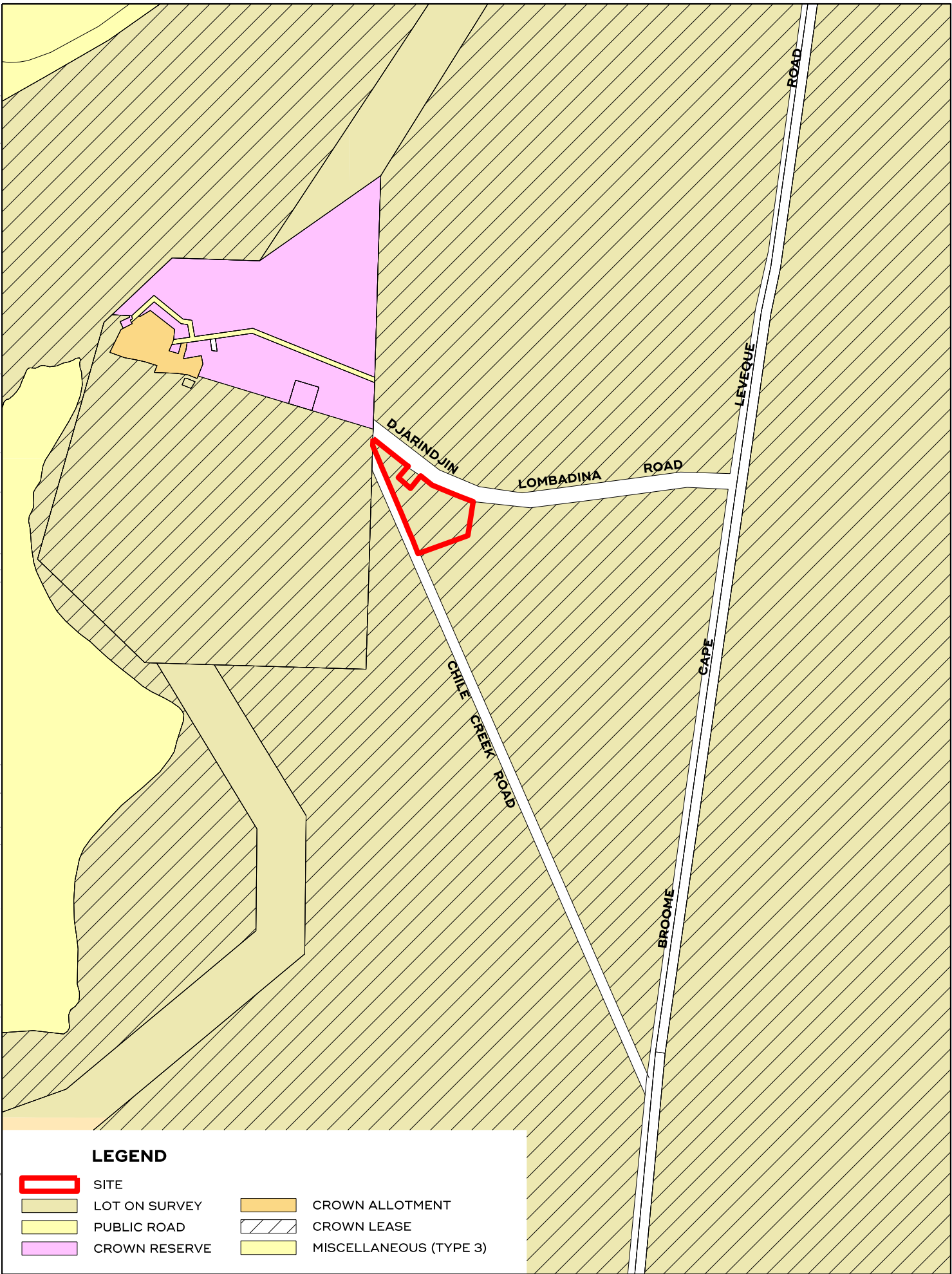
Refer, Figure 3 – Land Tenure.

## 2.5 Aboriginal and European Heritage

Several Aboriginal heritage sites are located within and around Djarindjin, some registered under the *Aboriginal Heritage Act 1972*. The Lombadina Mission is protected under the *Heritage of Western Australia Act 1990* and is listed on the Aboriginal Heritage Sites Register (Site Ref 14665) for artefact and ceremonial protection. This site is outside the DCP Project area, as confirmed by the PBC during the May 2025 heritage survey and in its subsequent June 2025 report, so a Section 18 application is not required. This has also been confirmed with the Department of Planning Lands and Heritage.

The PBC heritage survey and report confirmed that the proposed works on the subject site have been cleared, subject to monitoring during ground disturbance.

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**LAND TENURE PLAN**  
DEVELOPMENT APPLICATION  
DJARINDJIN  
**FIGURE 3**



## 3 Proposed Development

### 3.1 Development Summary

The DCP Project proposes the development of a 100% Indigenous-owned solar-battery power station supplying renewable electricity to the Djarindjin and Lombadina communities. The Aalga Goolil Power Station will meet 80% of the connected loads, significantly displacing the use of the ageing Horizon Power diesel plant, while supporting long-term energy security, reducing diesel usage and costs, creating new local training and employment opportunities and supporting self-determination for the Djarindjin and Lombadina communities. Horizon Power will independently upgrade the diesel facility to meet the remaining 20% of supply on the adjacent sublease area noted above, as that facility is nearing end of life in 2027.

The proposal comprises the installation of a 1.6MWp solar photovoltaic (PV) generation and 3.5MWh battery energy storage system (BESS), that will connect to the Djarindjin Lombadina Microgrid via the master switch board at the existing Djarindjin power station. Back up supply will be delivered independently by Horizon Power via an upgrade to the existing diesel facility. The development will occupy approximately 7.53 hectares of land located between Chile Creek Road and Lombadina Road reserve, wholly within Lot 297 on Deposited Plan 93256, on the area of a special lease in respect of which DAC is the lessee.

Key components of the proposal include:

- 3,408 solar PV array and associated inverters, mounted on ground-fixed structures.
- BESS pods, housed in modular, containerised units.
- Control and switchgear building, along with supporting electrical infrastructure and cabling.
- New 10-metre-wide access road from Djarindjin-Lombadina Road.
- 10 car parking bays located internally.
- Store/workshop, office and staff amenities, co-located with the main power hub and BESS.
- Internal access tracks, perimeter fencing, drainage and firebreaks, and associated site works.

The back up diesel generation facility will remain in place on the sublease area adjacent to the subject site and will be upgraded and operated by Horizon Power.

The Aalga Goolil Power Station will connect to the existing Djarindjin-Lombadina microgrid and be capable of operating in both grid-connected and islanded modes. The layout of the solar array and BESS has been designed to both optimise the electricity generated, minimising capital costs, and ensure protection of both the facility assets and the natural landscape features surrounding the development area. The DCP Project has been designed to minimise environmental and visual impacts using existing cleared or low-vegetation areas, low-profile solar arrays, and appropriate setbacks from community infrastructure in accordance with Layout Plan No. 3.

Once operational, the DCP Project will enable DAC/AG to deliver a community-owned, renewable power supply, reducing diesel consumption, supporting local training and employment, and enhancing the resilience of essential services for these communities on the northern Dampier Peninsula.

**Refer, Appendix C – Development Plans.**



### 3.2 Construction and Operational Details

Construction will be delivered under an EPC (Engineer, Procure and Construct) contract led by a Tier 1 contractor, overseen by Amboranj Power as Owner's Engineer and Project Manager. Construction will involve site preparation, driven pile installation, PV and BESS assembly, and commissioning, with completion scheduled in late 2027. The Aalga Goolil Power Station will connect to the existing Djarindjin Lombadina microgrid via the master switch board at the existing Djarindjin power station.

DAC's wholly owned subsidiary, AG, will develop, own and operate the renewable generation assets, while Horizon Power will manage diesel back-up generation, system control and network balancing on its sublease area. An Operations and Maintenance Plan for the Aalga Goolil Power Station will guide plant performance, safety, and maintenance regimes, with responsibility transitioning from the EPC contractor (first two years post-commissioning) to AG by 2030.

### 3.3 Workforce planning

DAC is the largest employer of Aboriginal and Torres Strait Islander people on the Dampier Peninsula, with 145 staff, of whom 77% are Aboriginal and Torres Strait Islander and the majority are local Bardi and Jawi people. The Project's workforce plan prioritises local Aboriginal participation, training and capability development throughout construction and operations.

Construction activities will employ local labour for civil works, fencing, vegetation management, and logistics, supplemented by specialist contractors for electrical and mechanical installation. A dedicated Project Officer and Asset Maintenance Officers will be recruited and trained on Country, supported by Amboranj Power and the EPC contractor through a structured skills-transfer and mentoring program.

Training partnerships with TAFE and regional employment providers will ensure local workers gain accredited competencies relevant to renewable energy system maintenance and essential services management. DAC is concurrently expanding worker accommodation to support sustainable local employment.

### 3.4 Landscaping and Landscape Management

The subject site has been selected adjacent to a previously disturbed portion of DAC's special lease area containing existing utilities infrastructure, minimising new clearing requirements. The DCP Project is guided by a Heritage Protection Agreement with the PBC and a community-endorsed LP3, ensuring the protection of heritage values and surrounding native vegetation.

Whilst a portion of the site is required to be cleared to facilitate the development, landscaping and vegetation management will focus on retaining and rehabilitating existing native vegetation within and around the development envelope, incorporating appropriate firebreaks and erosion control measures consistent with an Environmental Management Plan to be prepared by the EPC contractor.

### 3.5 Infrastructure & Servicing

The development site is accessed via existing sealed and unsealed internal roads that service the Djarindjin community, airport and existing Horizon Power diesel facility. These roads are suitable for construction vehicle access and will be used under a site-specific construction traffic management plan prepared by the EPC contractor.

Construction traffic will include the delivery of PV panels, batteries and construction materials, with movements concentrated during daylight hours and coordinated to minimise disruption to community traffic and airport operations.



Once operational, the facility will generate only occasional light-vehicle traffic associated with inspection and maintenance activities, with no measurable impact on the local road network.

## 4 Strategic Planning Framework

### 4.1 Dampier Peninsula Planning Strategy

The Dampier Peninsula Planning Strategy (DPPS) establishes a coordinated land use and development framework for the Dampier Peninsula, with a strong focus on settlement planning, environmental protection, and supporting economic opportunities for Aboriginal communities. The strategy introduces new land use categories, such as *Cultural and Natural Resource Use* and *Pastoral* and emphasises compact settlement patterns to consolidate infrastructure and services in established community areas.

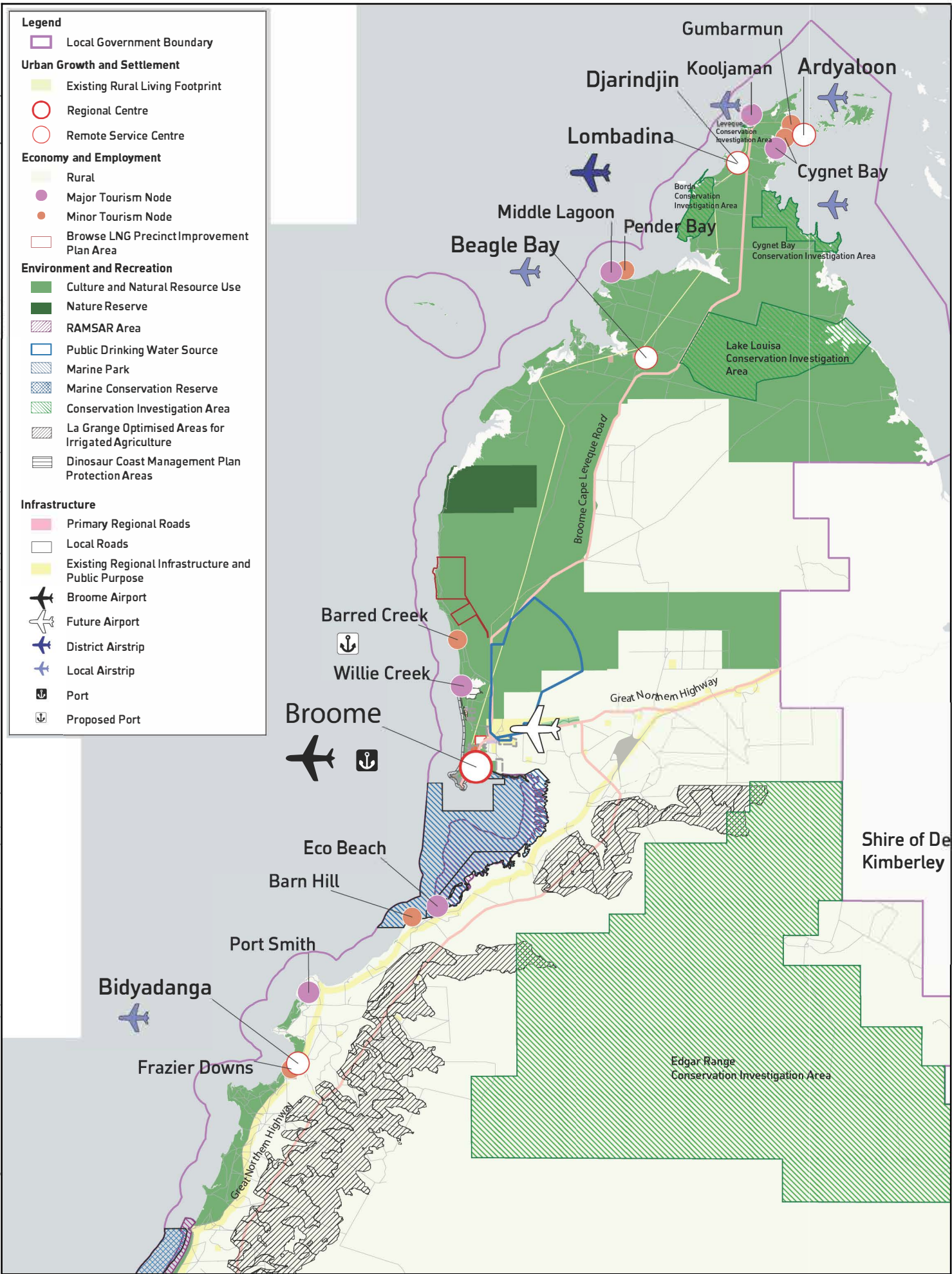
While the DPPS does not specifically reference renewable energy development, its objectives around supporting sustainable settlement, enabling economic diversification, and maximising the efficient use of infrastructure provide a relevant policy foundation for renewable energy initiatives. For a proposal within the LP3, the strategy's emphasis on concentrating services within recognised settlement areas suggests that a solar facility would be most appropriately located in proximity to the community and existing infrastructure corridors. This approach would support the strategy's intent to reduce costs, avoid land use conflicts, and strengthen community resilience.

### 4.2 Shire of Broome Local Planning Strategy

The Shire of Broome Local Planning Strategy (LPS) provides the long-term land use planning framework for the Shire and directly addresses the role of renewable energy in supporting sustainable development. The LPS recognises the significant opportunity for solar and wind energy to reduce reliance on existing electricity generation methods and notes that State Government policy encourages renewable energy facilities to be permissible uses across all planning zones. The strategy also identifies renewable energy development as a means of reducing living costs, supporting local economic growth, and enhancing climate resilience.

For a solar energy proposal in Djarindjin, the LPS provides clear policy support and a favourable planning context. The explicit recognition of renewable energy as a compatible use across zones removes a key regulatory barrier and reinforces the alignment of such a project with broader strategic objectives for the Shire. In particular, the LPS emphasis on sustainability, infrastructure efficiency, and community benefit underscores the role a solar facility could play in strengthening energy security and reducing costs for residents of Aboriginal communities on the Dampier Peninsula.

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DJAR-5-005.dgn / 5 MARCH 2025

**SHIRE OF BROOME LOCAL PLANNING STRATEGY**  
 DEVELOPMENT APPLICATION DJARINDJIN **FIGURE 4**



## 5 Statutory Planning Framework

### 5.1 Planning and Development (Local Planning Schemes) Regulations 2015

The proposal is subject to assessment under the *Planning and Development (Local Planning Schemes) Regulations 2015*, which set out the matters to be considered by local government and the Western Australian Planning Commission (WAPC) in determining development applications. Under Schedule 2 (Deemed Provisions), clause 29 provides that an endorsed Community Layout Plan for an Aboriginal settlement is to be taken into account as if it were part of the local planning scheme.

The LP3, endorsed by both the WAPC and the Shire of Broome, therefore forms the primary land use and development framework for the community. This is explored further in the following sections of this report.

### 5.2 State Planning Policies

Several State Planning Policies are relevant to the proposed development. Consideration of these policies has informed the preparation of this proposal, with the following commentary outlining how the development responds to, and is consistent with, the key objectives and strategic direction of each applicable State policy.

**Table 3 – State Planning Policy Framework**

Policy	Objective	Comment
<b>State Planning Policy 2.0 – Environmental and Natural Resources Policy</b>	Seeks to conserve and enhance the natural environment, integrate resource management with planning, and promote the sustainable use of natural resources. Clause 5.10 specifically aims to reduce greenhouse gas emissions by improving energy efficiency and encouraging renewable energy use.	A renewable energy facility at Djarindjin directly supports the policy by providing a renewable power source, reducing reliance on fossil fuels, and contributing to long-term community sustainability.
<b>State Planning Policy 3.2 – Aboriginal Settlements</b>	Establishes a framework for the planning and management of Aboriginal settlements through Layout Plans (LPs), which guide land use, infrastructure, housing, and development controls tailored to each community.	Djarindjin has an endorsed Layout Plan which provides the statutory planning framework for future development. The proposed solar project aligns with SPP 3.2 by supporting improved infrastructure and services within the community, without conflicting with separation requirements or other land use considerations.
<b>State Planning Policy 3.7 – Planning in Bushfire Prone Areas</b>	Seeks to ensure that planning and development in bushfire prone areas appropriately considers bushfire risk and	The subject site is mapped as bushfire prone. A Bushfire Management Plan (BMP) has been prepared to address compliance with SPP 3.7, including mitigation



	includes measures to reduce vulnerability to bushfire events.	measures relevant to the renewable facility and associated BESS, ensuring risks are managed in line with policy requirements.
<b>State Planning Policy 4.1 – Industrial Interface</b>	Aims to prevent land use conflict by ensuring appropriate separation between industrial activities (and associated infrastructure) and sensitive land uses.	The proposed renewable energy facility is located adjacent to future rural-residential lots located to the east, as identified in the Djarindjin Community Layout Plan. These lots are sufficiently separated by a vegetated buffer, resulting in no future amenity impacts.

### 5.3 Djarindjin Layout Plan No.3

As outlined earlier, State Planning Policy 3.2 – Aboriginal Settlements provides the policy framework for the preparation and endorsement of Community Layout Plans by the WAPC. Once endorsed, these plans guide all future land use and development within an Aboriginal settlement.

The subject site is located within the LP3. Initially endorsed in July 2008 and amended several times since, LP3 establishes a structured framework for the orderly growth of the Djarindjin Aboriginal Community. It coordinates land use, housing, infrastructure and environmental management while protecting cultural heritage values.

Recently, Amendment 15 was approved by the WAPC, formally reclassifying required areas of the subject site from *Open Space* to *Public Utility* (**Figure 5 – Djarindjin Community Layout Plan No.3**). This amendment was a critical enabling step, ensuring the land is appropriately zoned to accommodate essential infrastructure and providing a clear statutory basis for the proposed solar power station. The reclassification aligns the site’s planning intent with its intended function, removes previous land-use constraints, and gives the DCP Project strong strategic support within the primary planning framework.



## Djarindjin Layout Plan 3 (and Lombadina) - Context

**Land Use**

road reserve	rest, essential service distribution network
residential	house, residential quarters
visitor camping	camping ground, traditional law and culture
community	child care park, youth centre, recreation, educational
open space	agriculture - extensive, essential service distribution network, traditional law and culture
rural	agriculture - intensive, essential service distribution network, recreation, essential service distribution network
recreation	essential service distribution network, pedestrian access way
pedestrian network	any use permitted under the Drinking Water Source Protection Plan
drinking water network	agriculture - extensive, agriculture - intensive, traditional law and culture, change pass, mark, office, service station, shop
waterway	harbour accommodation
commercial	industrial
industrial	load depot, industry motor vehicle repair, storage, vehicle washing
public domain	electricity supply, essential service distribution network, drinking water supply, wastewater disposal, telecommunication, rubbish disposal

**Features**

- production line
- as-contained miscellaneous feature
- watercourse

**Land Administration**

- casualty
- lodged cadastral
- settlement zone
- Special Control Area 8, Shire of Broome
- settlement layer (SL), M&S, SL, lot number

**Exclusion Boundary**

- drinking gas storage
- drinking water source without protection zone
- agriculture
- industry
- no-go area
- power station
- utility
- wastewater

**Location map**

**WAPC** Western Australian Planning Commission

This layout plan is a development application. It is the responsibility of the developer to ensure that all relevant consents, approvals, licenses and clearances are in place prior to construction. The developer is responsible for ensuring that all relevant consents, approvals, licenses and clearances are in place prior to construction. The developer is responsible for ensuring that all relevant consents, approvals, licenses and clearances are in place prior to construction.

Layout Plan 3 endorsement	31 May 2007
Community	
Local Government	
Traditional Owners	
WAPC	1 July 2008
Amendment 15 endorsement	
WAPC	
WAPC	20 October 2025

**DJARINDJIN LAYOUT PLAN 3 AND LOMBADINA LAYOUT PLAN 3**  
**DEVELOPMENT APPLICATION**  
**DJARINDJIN**

**FIGURE 5**



## 5.4 Aboriginal Settlement Guidelines

The Aboriginal Settlements Guidelines supporting SPP 3.2 have informed the assessment of the proposal. Key considerations include:

Theme	Comment
<b>Land-Use Category and Permissibility</b>	Based on DPLH advice, the proposed renewable energy facility is most appropriately classified as Electricity Supply, a permitted use within the <i>Public Utility</i> land-use category.
<b>Exclusion Boundaries and Setbacks</b>	Table 2 of the Guidelines specifies minimum separation distances for infrastructure that may affect sensitive land uses. The DCP Project site is within the 200 m (and reduced 75 m) power-station exclusion area identified under LP3. Given the proposal's nature and siting, it is considered compatible with the surrounding <i>Public Utility</i> and <i>Open Space</i> uses.
<b>Infrastructure and Servicing Considerations</b>	Section 4 of the Guidelines emphasises sustainable servicing solutions in remote settlements. The DCP Project connects to the existing Djarindjin Lombadina microgrid and includes on-site access, drainage and fire-management measures consistent with settlement-planning standards.
<b>Approval Process and Engagement</b>	Amendment No.15 relating to the subject proposal has been approved by the WAPC, DAC, the Shire of Broome, and the Bardi Jawi PBC.

## 5.5 WAPC Planning Position Statement – Renewable Energy Facilities

The WAPC's *Position Statement: Renewable Energy Facilities* provides guidance for the planning, assessment, and development of renewable energy projects across Western Australia. Its intent is to balance the State's transition to low-carbon energy with the protection of environmental, cultural, and community values. The Position Statement supports renewable energy developments that are appropriately sited, compatible with surrounding land uses, and capable of integrating with existing infrastructure. For the Djarindjin proposal, the renewable energy facility is consistent with the objectives of the Position Statement as it reduces reliance on diesel generation, contributes to emissions reduction, and enhances local energy security in a remote community context.

**Table 4 – WAPC Renewable Energy Position Statement Justification**

Criteria	Response
<b>Community Consultation</b>	As outlined in Section 1.2, significant consultation has been undertaken for the subject proposal, resulting in a significant level of stakeholder buy-in.
<b>Environmental Impact</b>	Environmental impact is discussed in detail in Section 6.1 of this report.
<b>Visual &amp; Landscape Impact</b>	The proposed development is not located within proximity of any established residential areas. The impact of visual amenity and landscape has been considered in the design and siting of the infrastructure. Additionally, larger setbacks and buffers are



	proposed to the most eastern lot boundary to ensure any future residential lots along Djarindjin-Lombadina Road are not impacted upon.
<b>Noise Impact</b>	N/A - Proposal does not propose wind turbines.
<b>Public &amp; Aviation Safety</b>	The proposal is situated outside of the Djarindjin/Lombadina Airport's boundary therefore there is no requirement for the aerodrome operator to notify CASA of the proposal. However, a Glint and Glare assessment was undertaken in Jacobs in 2022, indicating that the proposal would not have any material impact on the nearby airport. A peer review of this report has been undertaken by Aviation Projects (Refer, Attachment H) to confirm that no further aviation approvals or assessments are required for the proposal and that no unacceptable safety risk is presented.
<b>Heritage</b>	DAC has secured a heritage protection agreement with the PBC which enabled a heritage survey to be undertaken with respect to the DCP Project area, and underpins the development of a protocol to support activities during construction that minimise the risk and manage any impacts on heritage and local vegetation.
<b>Construction Impact</b>	The Proponent is currently working through construction management considerations for the site. It is anticipated that a Construction Management Plan will be provided to the Shire of Broome prior to construction.
<b>Decommissioning</b>	Decommissioning of the facility is being incorporated into the development planning and associated whole of life cost estimate.

## 5.6 Local Planning Scheme No.7

Development applications should demonstrate consistency with the aims of the relevant Local Planning Scheme to ensure that proposals contribute positively to the community, environment, and local economy. The proposed renewable energy facility at Djarindjin aligns with the aims of Local Planning Scheme No.7 (LPS7) by providing reliable renewable energy that supports community needs and respects Aboriginal heritage, delivering sustainable and climate-responsive infrastructure that is compatible with the surrounding natural and cultural environment, reducing reliance on diesel and associated energy costs while supporting local economic opportunities, and integrating with the CLP to ensure practical and culturally appropriate development in line with the Scheme's objectives.

### 5.6.1 Zoning

The subject site is zoned 'Settlement' under the provisions of the Shire of Broome LPS 7. Refer, Figure 6 – Shire of Broome Local Planning Scheme Map.

Part 3 – Zones and use of land of LPS 7 sets out the objectives of zones. These are described below.

Settlement –

*"To identify existing and proposed Aboriginal settlements and to collaboratively plan for the orderly and proper development of those places by –*



- a. *Requiring preparation and endorsement of a layout plan in accordance with State Planning Policy 3.2; and*
- b. *Ensuring that development accords with a layout plan."*

As demonstrated above, the proposal is consistent with the intent and objectives of the endorsed Djarindjin Layout Plan No.3 (Amendment 15).

### 5.6.2 Land Use Definition

LPS 7 defines land uses and their permissibility across various zones. In broad terms, the proposed solar energy project would best be described as a *Renewable Energy Facility*, defined as follows:

*Means premises used to generate energy from a renewable energy source and includes any building or other structure used in, or relating to, the generation of energy by a renewable resource. It does not include renewable energy electricity generation where the energy produced principally supplies a domestic and/or business premises, with any on-selling to the grid being secondary.*

The DCP Project is intended to generate and supply renewable energy to the local Djarindjin Lombadina microgrid under a Power Purchase Agreement with Horizon Power. The DCP Project will significantly displace the existing diesel generation system and provides a community-owned source of clean, reliable energy meeting 80% of the Djarindjin and Lombadina communities' needs. Given its scale, purpose and operational model, the proposal clearly fits the definition of a Renewable Energy Facility. As noted above, an upgrade to the existing diesel facility to meet the balance of supply will be undertaken by Horizon Power in parallel.

Clause 17 (Table 3 - Zoning Table) sets out land use permissibility as it applies to the various zones within the scheme. Development within a *Settlement* zone is 'to be determined with reference to the endorsed layout plan'. This means that when considering the acceptability of a land use proposal within this zone, one must defer to the applicable Aboriginal Layout Plan that has been approved for the area.

### 5.6.3 Special Control Area No.8

Special Control Area No.8 (SCA 8) in the Shire of Broome pertains to Aboriginal Communities. The purpose of the Special Control Area is to identify existing and proposed Aboriginal settlements and to collaboratively plan for the orderly and proper development of these places. The objective of this area as detailed in Schedule 8 of LPS 7 is:

*To ensure the orderly and proper development of areas within or in proximity to existing and proposed Aboriginal settlements which may be located outside of the extent of the 'Settlement' zone.*

LPS 7 sets out additional provisions as they apply to the special control area and these include:

1. Proposed development within the Aboriginal Communities SCA is to comply with a Layout Plan prepared in accordance with State Planning Policy 3.2.
2. In the instance that development is proposed for a place within the Aboriginal Communities SCA that does not have a Layout Plan prepared in accordance with State Planning Policy 3.2, the local government is to consider the proposal having regard to the aims of this scheme.

Given the proposed development is located within the DLP3, it is required to comply with the plan in its most recently amended form, which it does.



## 5.7 Local Planning Policies

### 5.7.1 Local Planning Policy 5.7 – Development Standards for Development Applications

A formal landscaping plan has not been submitted with this Development Application. While Local Planning Policy 5.7 – Development Standards for Development Applications typically requires landscaping plans for developments exceeding \$100,000 in value, this requirement is not considered applicable in this instance due to the unique context of the proposal. The DCP Project is located within the Djarindjin–Lombadina Aboriginal settlement area and is being delivered by the DAC for the benefit of the local communities. The development is contained wholly within community-managed land and will not affect external properties or public interfaces.

The DCP Project area (apart from the area of the Horizon Power sublease) is surrounded by intact native vegetation, which provides natural visual screening and ensures that additional formal landscaping would not materially enhance the site’s visual or environmental outcomes. Furthermore, any ground disturbance will be minimised through sensitive design, and the use of native vegetation buffers will be retained to maintain the community’s cultural and environmental setting. For these reasons, it is considered that a formal landscaping plan is unnecessary and that the proposal appropriately addresses the intent of Local Planning Policy 5.7.

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**LEGEND**

**LOCAL SCHEME RESERVES**

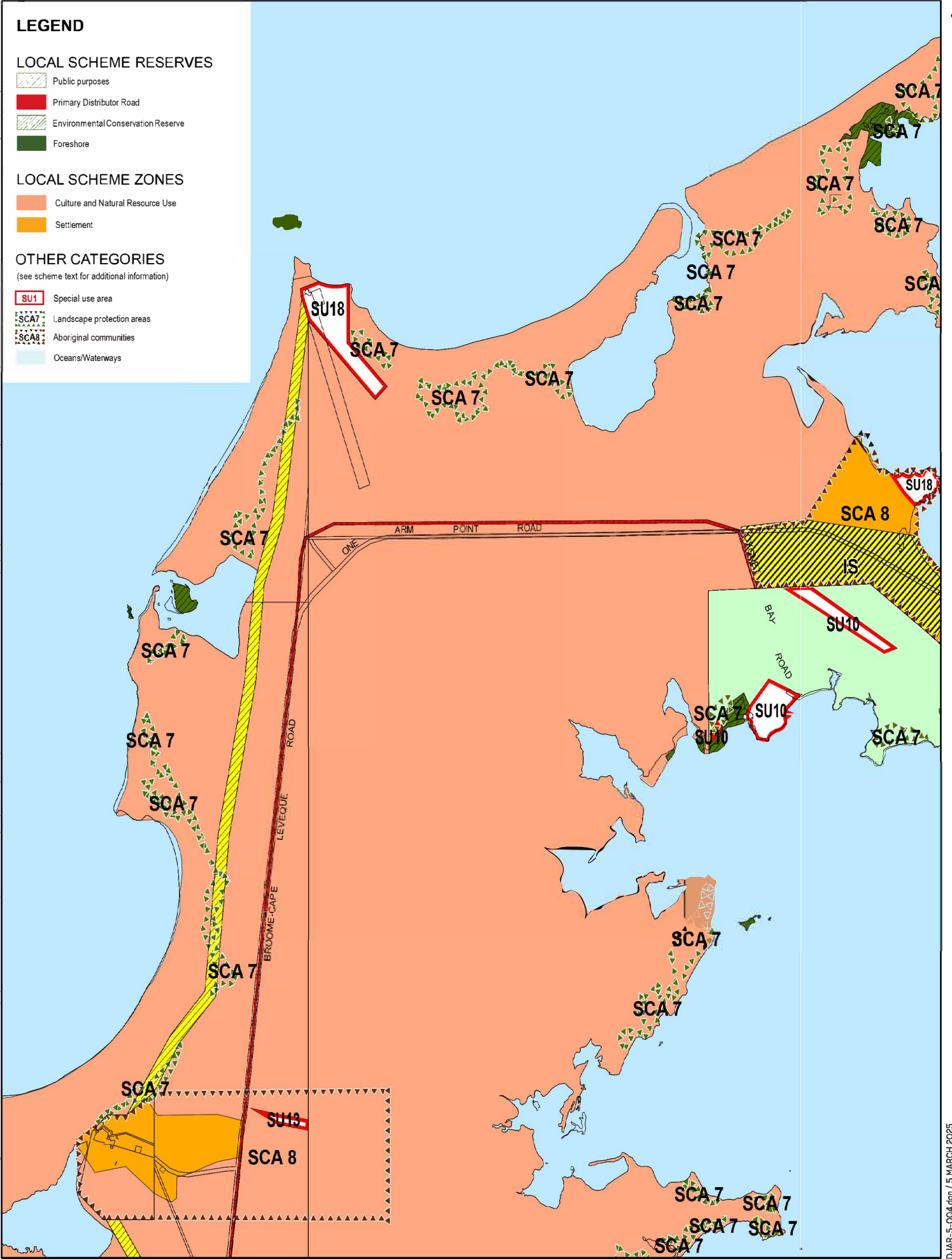
- Public purposes
- Primary Distributor Road
- Environmental Conservation Reserve
- Foreshore

**LOCAL SCHEME ZONES**

- Culture and Natural Resource Use
- Settlement

**OTHER CATEGORIES**  
(see scheme text for additional information)

- SU1 Special use area
- SCA7 Landscape protection areas
- SCA8 Aboriginal communities
- Oceans/Waterways



**LOCAL PLANNING SCHEME No. 7**  
**DEVELOPMENT APPLICATION DJARINDJIN**  
**FIGURE 6**

DJAR-5-004.dgn / 5 MARCH 2025



## 6 Key Considerations

### 6.1 Environmental

Environmental assessments (WEPL 2025; GHD 2023, 2021) confirm that the site presents limited environmental constraints, with potential impacts effectively managed under an updated Native Vegetation Clearing Permit (NVCP) and Construction Environmental Management Plan (CEMP). Key environmental features of the site are described below.

**Table 5 - Environmental Features**

Environmental Setting	Comment
<b>Bioregion</b>	Dampier land (subregion Pindan land)
<b>Land system</b>	Yeeda (335) - red pindan sandplain acacia shrubland and scattered eucalypt woodland
<b>Soils</b>	Deep, well-drained sands with very low erosion risk
<b>Hydrology</b>	No mapped wetlands or watercourses on-site, nearest ephemeral drainage line is approximately 370 metres south and the coast lies approximately 2km to the south-west.
<b>Groundwater</b>	Canning - Kimberley proclaimed area
<b>Drinking Water Source Protection Area</b>	Occurs approximately 60 metres north. Standard CEMP controls (spill containment, erosion and sediment management) will protect surface and groundwater quality).

#### 6.1.1 Vegetation Clearing

A new NVCP (Area Permit) is being progressed to supersede CPS 10097/1, expanding the approved footprint to 7.53 ha to accommodate solar infrastructure and required Asset Protection Zones (APZs).

Clearing will be limited to areas essential for development, with mitigation including:

- Use of existing cleared or degraded land where practicable.
- Pruning rather than removal of vegetation where feasible.
- Rehabilitation of temporarily disturbed areas within 12 months post-construction.

Assessment against the Ten Clearing Principles (EP Act 1986, Schedule 5) found the proposal unlikely to be at variance with any principle, as vegetation is regionally extensive, in good condition, and not part of a Threatened Ecological Community.

**Refer Attachment G - Environmental - Clearing Permit Documentation**

#### 6.1.2 Surface and Groundwater

The site is approximately 650 metres north of an ephemeral drainage line that flows west toward the coast, about 2 kilometres away. It is not located within a mapped floodplain or 1 % AEP flood area. A Drinking Water Source Protection Area lies roughly 60 metre north of the site, requiring standard sediment, erosion and stormwater controls during construction.



A Construction Environmental Management Plan (CEMP) will be implemented to manage runoff, fuel storage, and site disturbance, ensuring protection of surface and groundwater quality.

### 6.1.3 Environmentally Sensitive and Conservation Areas

The site is located within several broader conservation designations, including the West Kimberley National Heritage Place, the Bardi Jawi Indigenous Protected Area (IPA), and Environmentally Sensitive Area 7290, which corresponds to the buffer of the Monsoon (Vine) Thickets Threatened Ecological Community (TEC).

Although these layers highlight the need for responsible environmental management, investigations confirmed that:

- The Vine Thickets TEC **does not occur on-site**, as the coastal dune landform required for this community is absent.
- The Bardi Jawi Gaarra Marine Park lies more than 1 km west of the project area, and no direct or indirect impacts are anticipated.
- The proposed works occur adjacent to previously modified pindan plain that has already supported infrastructure development.

Ongoing engagement with the PBC and relevant government agencies will continue throughout construction and operation to ensure cultural, ecological and heritage values within the IPA are appropriately managed.

### 6.1.4 Flora and Vegetation

Flora surveys undertaken by GHD (2021, 2023) and reviewed by Western Environmental (2025) identified a single vegetation community across the site:

- Eucalyptus miniata and Corymbia greeniana woodland on pindan red sands (VTO4).

Vegetation condition is very good to excellent, although parts have been previously disturbed through historical clearing and track formation. Key findings include:

- No Threatened or Priority flora species were recorded or considered likely to occur.
- No Threatened or Priority Ecological Communities were identified within the project footprint.
- Vegetation is typical of the Dampier land (750) association, of which more than 99 per cent remains across the region.

The limited clearing required for the DCP Project will therefore have no significant impact on regional biodiversity and will be managed under the conditions of the Native Vegetation Clearing Permit and the Construction Environmental Management Plan (CEMP).

### 6.1.5 Fauna

Fauna assessments (GHD 2021 & 2023; WEPL 2025) identified a single broad habitat type—Eucalyptus–Corymbia woodland on red pindan sands—which is widespread across the Dampier Peninsula. No threatened fauna was recorded during surveys.

Species considered likely to utilise the site occasionally include the Gouldian Finch (Endangered, EPBC), Greater Bilby (Vulnerable, EPBC), Northern Brushtail Possum, and Northern Blue-tongued Skink (Critically Endangered, EPBC). Outcomes of the reporting identified that habitat within the DCP Project footprint provides foraging or dispersal opportunities only and does not constitute core breeding or refuge habitat.

To minimise residual impacts, the following measures will be implemented:



- Pre-clearing fauna inspections and spotter-catcher supervision during vegetation removal.
- Staged, directional clearing to allow fauna to move away from works.
- Vehicle-speed limits, weed hygiene and dust suppression to prevent indirect impacts.
- Integration of fauna-management procedures into the CEMP.

Overall, the proposed clearing and infrastructure footprint are considered unlikely to significantly affect local fauna populations or ecological function.

### 6.1.6 Avoidance & Mitigation

Environmental design and management have been embedded in the project from its inception to avoid or minimise potential impacts. Key strategies include:

- Siting infrastructure on previously cleared or disturbed land adjacent to the existing Horizon Power facility.
- Avoiding sensitive landforms and areas mapped as part of the Vine Thickets TEC buffer.
- Minimising the clearing footprint to that required for solar, battery, and safety (APZ) areas.
- Implementing a Construction Environmental Management Plan (CEMP) that will address:
  - Vegetation clearing protocols and access control.
  - Fauna management and exclusion procedures.
  - Erosion, sediment and dust control.
  - Spill prevention, waste management and fire safety.
  - Progressive rehabilitation of temporary work areas.

These measures, together with ongoing liaison with regulatory agencies and the Bardi Jawi PBC, will ensure environmental impacts are contained, monitored and effectively managed throughout the project lifecycle.

## 6.2 Bushfire Prone Area

A Bushfire Management Plan (BMP) has been prepared by Western Environmental Approvals Pty Ltd (**Appendix D – Bushfire Management Plan**) to support the Development Application for the DCP Project. The site is located within a designated bushfire-prone area (Area 2) under the State Map of Bush Fire Prone Areas (DFES 2024) and has therefore been assessed in accordance with State Planning Policy 3.7 – Bushfire (SPP 3.7) and the associated Planning for Bushfire Guidelines (2024).

Although renewable energy facilities are not specifically captured under SPP 3.7, the proposal has been voluntarily assessed against Bushfire Protection Criteria 7 – Commercial and Industrial Development, together with the Victorian Country Fire Authority (CFA) Design Guidelines for Renewable Energy Facilities (2023), adapted for Western Australian conditions.

### 6.2.1 Bushfire Risk Assessment

A bushfire risk assessment was undertaken in accordance with AS 3959:2018 – Construction of Buildings in Bushfire-Prone Areas. The site comprises a mix of cleared areas and unmanaged native vegetation, with Class A Forest identified as the dominant vegetation type. A Fire Danger Index (FDI) of 80 was adopted for the assessment.



Following development, the site will be largely cleared and maintained in a low-threat state consistent with the Planning for Bushfire Guidelines (2024). Bushfire Attack Level (BAL) modelling (Methods 1 and 2) identified:

- Battery Energy Storage System (BESS), distribution pod and office/workshop – BAL-12.5 (radiant heat  $\leq 10 \text{ kW/m}^2$ ).
- Solar arrays – BAL-LOW to BAL-FZ, noting these are non-habitable assets with  $\geq 10 \text{ m}$  separation from vegetation.

### 6.2.2 Mitigation Methods

The proposal incorporates a range of measures consistent with State Planning Policy 3.7 and the Planning for Bushfire Guidelines (2024) to ensure risk to people, property and infrastructure remains low. Key mitigation methods include:

- Establishment of cleared asset protection zones (APZs) around the solar arrays, BESS and ancillary buildings to maintain radiant heat exposure below  $10 \text{ kW/m}^2$ .
- Installation of 10-metre firebreaks and regular vegetation management to maintain the site in a low-threat state.
- Provision of dual all-weather emergency access routes connecting to Djarindjin–Lombadina and Chile Creek Roads.
- Static water supply tanks with a total capacity of approximately 388 kL, located at key access points and fitted with compliant couplings for firefighting use.
- Implementation of an Emergency Management Plan and staff training to support response readiness during both construction and operations.

Collectively, these measures satisfy the Bushfire Protection Criteria and ensure the development achieves an acceptable level of bushfire safety for the community and surrounding environment.

In summary, the Bushfire Management Plan (BMP) prepared for the DCP Project confirms that the proposal meets the intent and objectives of State Planning Policy 3.7 – Bushfire and the Planning for Bushfire Guidelines (2024). The development achieves compliance with Bushfire Protection Criteria 7 for commercial and industrial uses and incorporates a suite of mitigation and management measures—including asset protection zones, firebreaks, emergency access, and dedicated water supplies—to ensure that bushfire risk to people, property, and critical infrastructure is maintained at an acceptable and manageable level.

## 6.3 Glint and Glare

A Glint and Glare Assessment was prepared by Jacobs (December 2022) to inform initial phases of the project (**Appendix H – Aviation Reporting**). The purpose of the assessment was to model potential glare impacts associated with the photovoltaic (PV) array on nearby receptors, including surrounding residences, local road users and aviation activity at the Djarindjin Airport. The modelling adopted conservative assumptions, including clear sky conditions at all times and no screening provided by existing vegetation or built form.

### 6.3.1 Ground-Based Receptors

The assessment considered nine-point receptors and thirteen road routes in proximity to the site. Green glare (low intensity, no after-image) was predicted at five-point receptors, while no yellow glare was predicted at any of these locations. For route receptors, green glare was predicted at ten routes and yellow glare (after-image potential) at seven routes, most notably along Djarindjin Road, Lombadina Road, D26



Street, Sixth Road and the road approaching the family centre within the adjacent community lands (west of the special lease). Glare is expected to occur in mornings and evenings and is assessed as being significantly less intense than direct sunlight, and comparable to reflections commonly experienced from water bodies or building windows.

### **6.3.2 Aviation Receptors**

Flight path modelling for fixed-wing aircraft approaching Djarindjin Airport (approximately 2 km east of the site) identified no yellow glare along either approach path. Green glare was predicted along the 285° approach (SE landing), during late afternoon in February–April and September–October. In accordance with CASA guidelines, green glare is considered acceptable for aviation safety, and no further mitigation is required. Helicopter approaches were not assessed; however, Jacobs noted the presence of helipads at the airport which are used for offshore oil and gas operations.

### **6.3.3 Recommendations and Mitigation**

The report recommends further consideration of the effectiveness of existing vegetation screening in and around the site, as this may already sufficiently mitigate glare impacts on adjacent receptors. Where required, additional vegetation screening should be provided along the west, north and east boundaries of the PV array to reduce potential impacts on nearby road users, while being designed to avoid shading of the PV modules. No mitigation is required for fixed-wing aviation, although further review of helicopter flight paths may be warranted.

Overall, the assessment confirms that the proposed DCP Project is unlikely to generate significant glare-related impacts. Any potential effects on surrounding road users are manageable through vegetation screening, while aviation impacts are negligible in accordance with CASA guidance.

## **6.4 Civil & Engineering**

An Engineering Services Report prepared by Porter Consulting Engineers (November 2025) confirms that the proposed DCP Project within Lot 297 on DP 93256, Djarindjin, can be fully serviced and constructed without constraint. The site's gentle topography, free-draining pindan soils, and proximity to existing road infrastructure allow for efficient construction with minimal earthworks or disturbance. All essential services will be provided on-site through self-contained water, wastewater and stormwater systems, designed in accordance with Shire of Broome Local Planning Policy 5.7 – Development Standards for Development Applications. Overall, the engineering assessment demonstrates that the proposal is technically feasible, environmentally sound, and consistent with the principles of orderly and proper planning, ensuring the facility can operate safely, sustainably and independently of external utility networks.

**Refer, Appendix E – Civil Engineering**

### **6.4.1 Landform & Earthworks**

The site consists of gently sloping pindan soils, which are stable, well-drained and suitable for light structural loading. Ground levels fall gradually from approximately RL 26 m in the north to RL 20.6 m in the south, providing a natural drainage gradient and minimising the need for significant earthworks. The development will largely follow existing contours, with minor filling and grading only where required to achieve suitable levels for internal access roads, hardstand areas and stormwater swales. All clearing and ground disturbance will remain within the boundaries approved under the Native Vegetation Clearing Permit and Bushfire Management Plan.



### **6.4.2 Access and Internal Roads**

Access to the facility will be provided via the existing crossover to Djarindjin–Lombadina Road, currently servicing the existing Djarindjin diesel power station. This access point will be upgraded and widened to accommodate construction traffic and maintenance vehicles. Within the site, a simple internal road network will provide access to the solar array, battery area and operations compound. Internal roads will be formed and compacted with a gravel basecourse and sealed surface, providing an all-weather standard suitable for light vehicles and small service trucks. These works will maintain safe and efficient movement of construction and operational vehicles while ensuring minimal visual and environmental impact.

### **6.4.3 Stormwater Management**

A stormwater management system will be designed in accordance with Shire of Broome stormwater design standards to retain and detain surface runoff within the site. The system will incorporate vegetated swales, infiltration areas and discharge points that maintain post-development flow rates at or below pre-development conditions. The natural topography allows for effective sheet flow and infiltration into the pindan soils, reducing the need for large, engineered structures. Stormwater quality will be managed through erosion and sediment controls, consistent with the Construction Environmental Management Plan (CEMP), ensuring that runoff does not affect surrounding land or the nearby drinking-water protection area.

**Refer, Attachment F – Stormwater Management Plan**

### **6.4.4 Water Supply**

No reticulated water services currently extend to the site. Water supply for the facility will therefore be provided via rainwater harvesting and on-site storage tanks, supplemented by carted water as required during construction and operation. Stored water will be used for staff amenities, dust suppression, periodic solar panel cleaning and firefighting purposes. The system design will ensure adequate storage capacity for operational requirements while minimising reliance on external supply networks.

### **6.4.5 Waste Management**

There is no existing reticulated sewerage system in the locality. The development will incorporate a self-contained wastewater treatment system, such as a compact aerobic treatment unit (ATU) or composting toilet system, to service operational facilities. The final system will be designed and installed in accordance with Department of Health (WA) and Shire of Broome requirements to ensure effective on-site treatment and disposal without environmental risk.

## **6.5 Additional Matters**

In accordance with Clause 67 of the Planning and Development (Local Planning Schemes) Regulations 2015, the decision-maker must have due regard to all relevant planning considerations when determining a development application. Although Djarindjin is not subject to a local planning scheme, Clause 29(3) of the Regulations provides that the endorsed Djarindjin Layout Plan No. 3 is to be taken into account as if it were part of a local scheme.

This planning report provides a comprehensive assessment against the matters listed under Clause 67 and is considered to sufficiently address all relevant planning considerations. The proposal is consistent with the objectives of orderly and proper planning, the intent of Layout Plan No. 3, and the broader State and local policy framework. It will deliver essential renewable energy infrastructure for the Djarindjin and



Lombadina communities with minimal environmental and amenity impact, aligning strongly with community aspirations for sustainable self-sufficiency and long-term resilience.

## 7 Conclusion

The Aalga Goolil Djarindjin Community Power Project represents a significant and forward-looking investment in the future of the Djarindjin and Lombadina communities. The proposal delivers a modern, reliable and culturally supported renewable energy system that will significantly displace ageing diesel infrastructure and transition the community to a cleaner, more resilient and economically efficient power supply. The DCP Project has been shaped through extensive engagement with community members, Traditional Owners, government agencies and technical specialists, ensuring that the design is both technically robust and culturally appropriate.

Comprehensive environmental, engineering, bushfire and heritage assessments confirm that the site is suitable for the proposed development and that any potential impacts can be effectively managed through the supporting management plans and statutory approvals already underway. The Aalga Goolil Power Station is consistent with the Djarindjin Layout Plan No. 3 and aligns with key state and local planning frameworks, including the Shire of Broome Local Planning Strategy, SPP 3.2 Aboriginal Settlements, and the State's broader policy direction encouraging renewable-energy generation in remote communities.

Importantly, the DCP Project provides meaningful social, cultural and economic benefits. It enables a greater level of community self-determination by bringing primary energy production under local ownership and governance, reduces reliance on costly diesel generation, and creates new pathways for training, employment and enterprise. The location has been carefully selected to minimise environmental disturbance, complement existing utility corridors and ensure operational safety and accessibility.

Overall, the proposal constitutes orderly and proper planning and clearly meets the strategic intentions for the Dampier Peninsula and surrounding region. It provides essential infrastructure that is technically sound, environmentally responsible, culturally aligned and strongly supported by the community it serves.



# Appendix A: Certificate of Title

WESTERN



AUSTRALIA

TITLE NUMBER

Volume Folio

**LR3123 260**

RECORD OF QUALIFIED CERTIFICATE  
OF  
CROWN LAND TITLE  
UNDER THE TRANSFER OF LAND ACT 1893  
AND THE LAND ADMINISTRATION ACT 1997

The undermentioned land is Crown land in the name of the STATE OF WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
REGISTRAR OF TITLES



**LAND DESCRIPTION:**

LOT 297 ON DEPOSITED PLAN 93256

**STATUS ORDER AND PRIMARY INTEREST HOLDER:  
(FIRST SCHEDULE)**

**STATUS ORDER/INTEREST:** LEASEHOLD

**PRIMARY INTEREST HOLDER:** DJARINDJIN ABORIGINAL CORPORATION OF POST OFFICE BOX 920,  
BROOME

(LC I126915 ) REGISTERED 5/6/2002

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:  
(SECOND SCHEDULE)**

1. I126915 LEASE. SUBJECT TO THE TERMS AND CONDITIONS AS SET OUT IN THE LEASE.  
REGISTERED 5/6/2002.
  - J966230 SUB-LEASE OF LEASE I126915 TO REGIONAL POWER CORPORATION OF 363  
WELLINGTON STREET, PERTH EXPIRES: SEE SUB LEASE. AS TO PORTION ONLY  
REGISTERED 26/10/2006.
  - K825241 VARIATION OF LEASE I126915 REGISTERED 14/1/2009.
  - O546940 PARTIAL SURRENDER OF LEASE I126915. AS TO THE PORTION COMPRISED IN LOT 303  
ON DP49464 ONLY. REGISTERED 6/11/2020.
  - Q395509 SUB LEASE. SUB LESSEE STATE OF WESTERN AUSTRALIA OF 17 DICK PERRY AVENUE  
TECHNOLOGY PARK WESTERN PRECINCT KENSINGTON WA 6151 AS TO PORTION  
ONLY REGISTERED 22/4/2025.
2. K257761 CAVEAT BY MINISTER FOR WORKS AS TO PORTION ONLY LODGED 5/7/2007.
3. O606189 PORTION COMPRISED IN LOT 303 ON DP49464 TO VOL LR3172 FOL 755 REGISTERED 8/1/2021.
4. P947456 EASEMENT TO COMMONWEALTH OF AUSTRALIA FOR GEODETIC FACILITY AND  
NAVIGATION PURPOSES. SEE DEPOSITED PLAN 423302 REGISTERED 10/4/2024.
5. P947457 MEMORIAL. LAND ADMINISTRATION ACT 1997. SECTION 17. AS TO PORTION ONLY - SEE  
DEPOSITED PLAN 423302 REGISTERED 10/4/2024.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.

END OF PAGE 1 - CONTINUED OVER

ORIGINAL CERTIFICATE OF CROWN LAND TITLE  
QUALIFIED

REGISTER NUMBER: 297/DP93256

VOLUME/FOLIO: LR3123-260

PAGE 2

Lot as described in the land description may be a lot or location.

(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.

(3) The interests etc. shown hereon may have a different priority than shown.

-----END OF CERTIFICATE OF CROWN LAND TITLE-----

**STATEMENTS:**

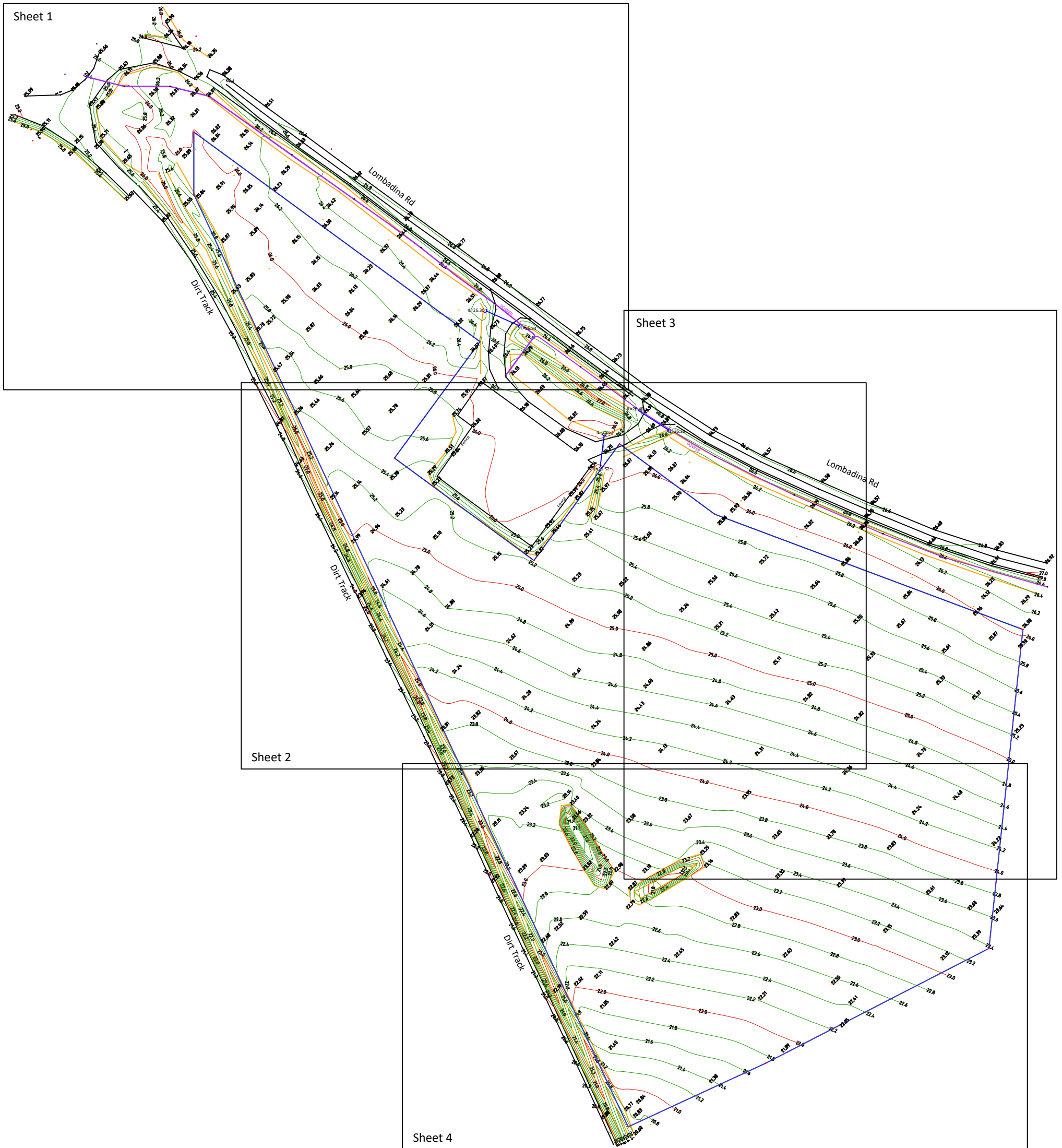
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: LR3123-260 (297/DP93256)  
PREVIOUS TITLE: LR3093-496  
PROPERTY STREET ADDRESS: LOT 297 BROOME-CAPE LEVEQUE RD, DAMPIER PENINSULA.  
LOCAL GOVERNMENT AUTHORITY: SHIRE OF BROOME  
RESPONSIBLE AGENCY: DEPARTMENT OF PLANNING, LANDS AND HERITAGE (SLSD)

NOTE 1: A000001A CORRESPONDENCE FILE 02155-1975-05RO.  
NOTE 2: LEASE I126915 WAS ALLOCATED A DOCUMENT NUMBER TO ALLOW DIGITAL CAPTURE WITHOUT THE PRODUCTION OF THE DUPLICATE LEASE. CURRENT DUPLICATE LEASE IS STILL NUMBERED CL272/1991.  
NOTE 3: SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES  
NOTE 4: LAND PARCEL IDENTIFIER OF DAMPIER LOCATION 297 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 297 ON DEPOSITED PLAN 93256 ON 07-AUG-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.  
NOTE 5: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.

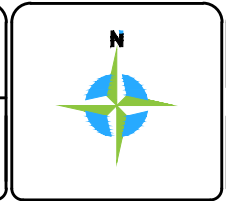


# Appendix B: Site Survey



Rev.	Description	Drawn	Date	Checked
A	INITIAL RELEASE	TS/BG	03/09/2025	BG

  
 Surveyor: TS/BG  
 Survey Date: 02/09/2025  
 File:  
 FILES Software:-



Solar Project Lombadina  
 Feature Survey  
 CLIENT: RFF

The contents of this plan are current and correct as of the date stated within the revision panel. All consultants and persons wishing to utilise this data should satisfy themselves of this plan's currency by contacting MNG.

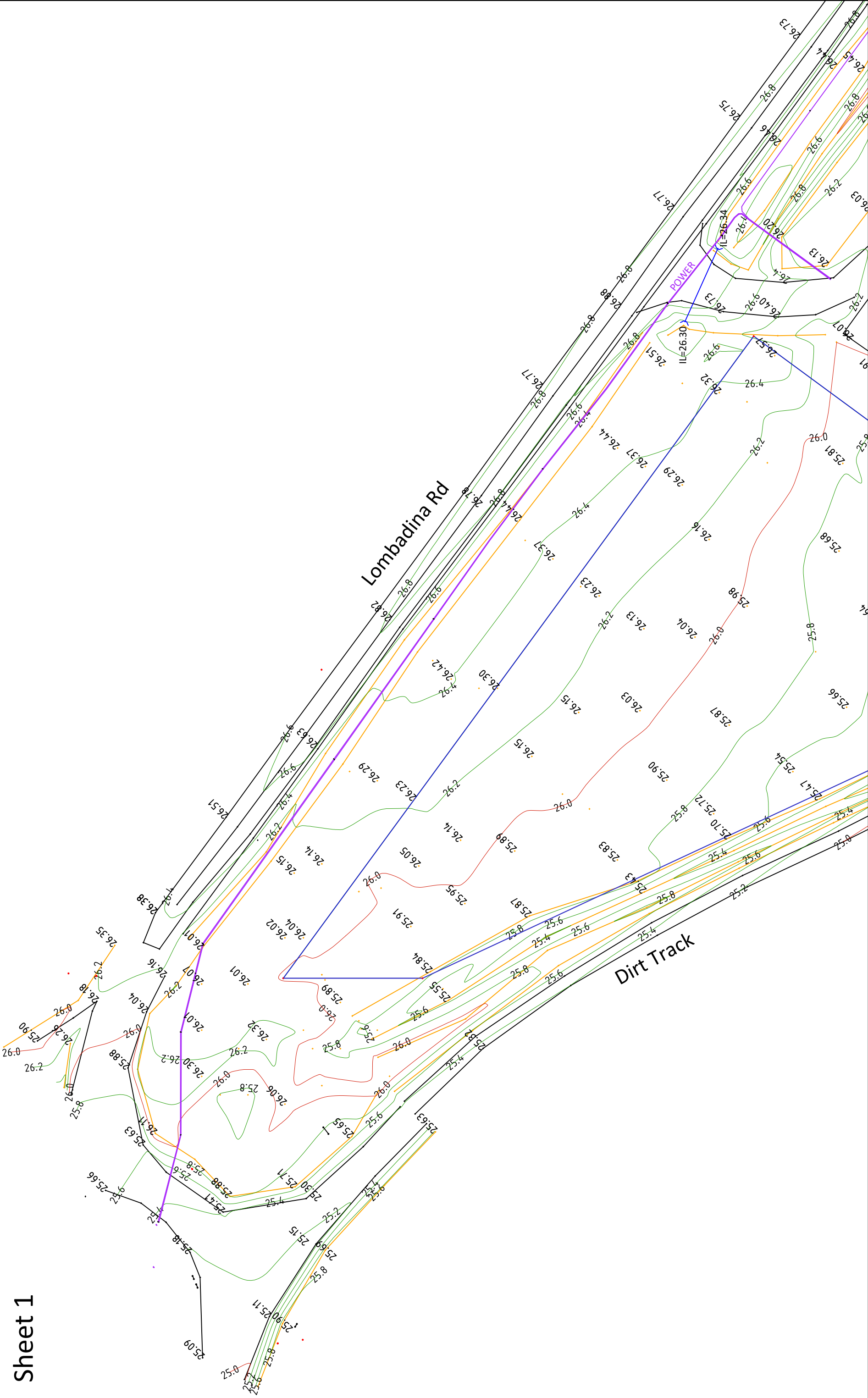
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 ALL DISTANCES ARE IN METRES  
 For true to scale reproduction of this plan, plot at A3 with the Page Scaling set to None

The boundaries depicted on this plan were not re-established as part of this survey, therefore this plan does not guarantee their accuracy. Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.



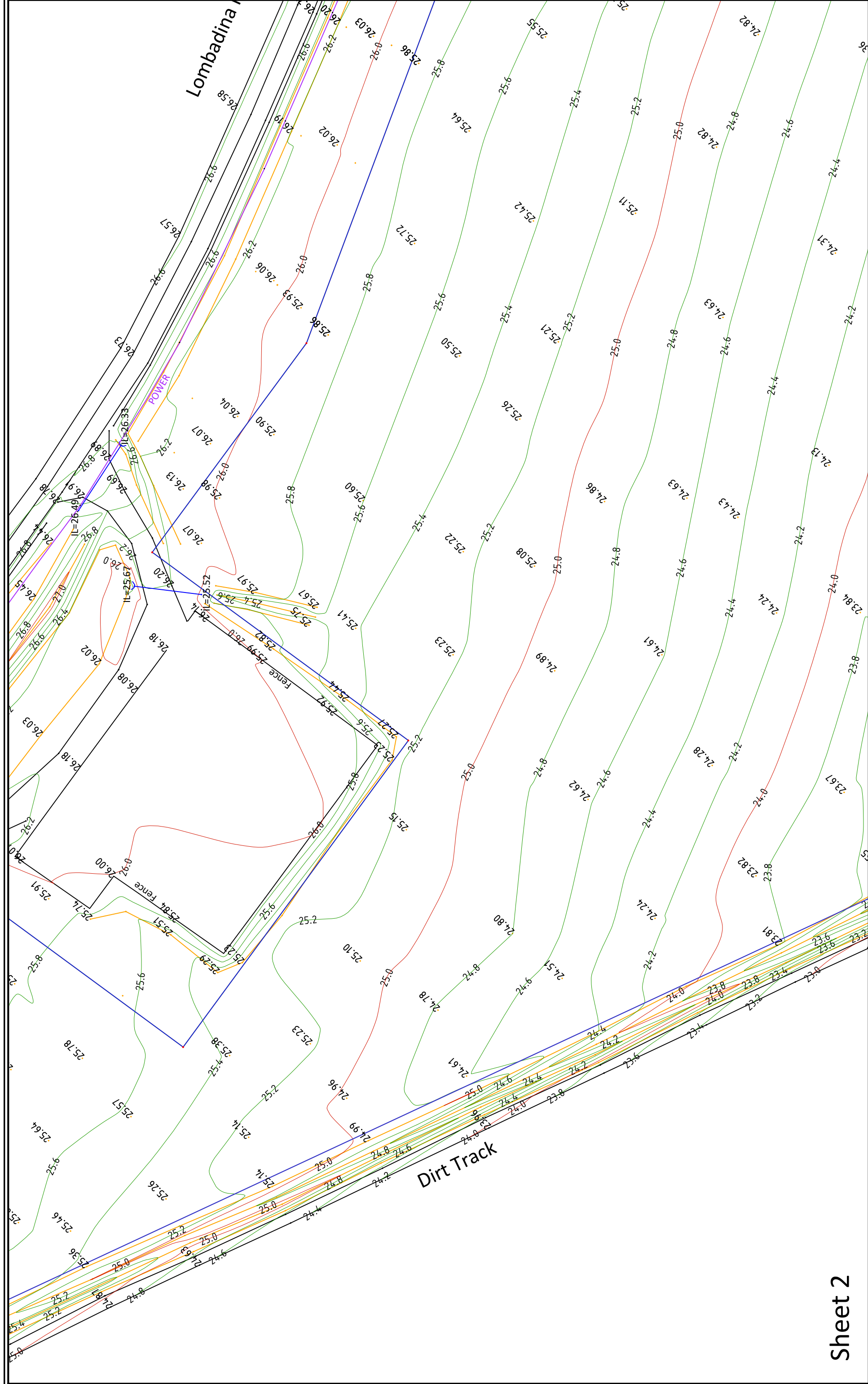
Suite 5, 2 MacPherson Street  
 PO Box 6405  
 BROOME WA 6725  
 Tel: (08) 6316 2130  
 info@mngsurvey.com.au

Project Mng: BG Datum: MNG94  
 41987 - DE - 001 - A  
 Job Number Type Plan Number



<p>Scale: 1:250 ALL DISTANCES ARE IN METRES For true to scale reproduction of this plan, plot at A3 with the Paging Scaling set to None.</p> <p>The contents of this plan are current and correct as of the date stated within. Any person relying on this data should satisfy themselves of this plan's currency by contacting MNG.</p> <p>Surveyor: TS/BG Survey Date: 02/09/2025 File: S:\1- FILES Software-</p>			
		<p>The boundaries depicted on this plan were not re-established as part of this survey, therefore this plan does not guarantee their accuracy. Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.</p>	
<p>PO Box 1330 KUNUNURRA WA 6743 Tel: (08) 9316 2130 info@mngsurvey.com.au</p>			
<p>Client: RFF</p>		<p>Project Mgr: BG</p>	
<p>Project: 41987 - DE - 2 - A</p>		<p>Job Number: 41987 - DE - 2 - A</p>	
<p>Project: MGS/A/HD</p>		<p>Drawn: TS/BG</p>	
<p>Rev. A INITIAL RELEASE</p>		<p>Date: 03/09/2025</p>	
<p>Description</p>		<p>Checked: BG</p>	

Solar Project Lombadina  
Feature Survey



# Sheet 2

Rev.	Description	Drawn	Date	Checked
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 ALL DISTANCES ARE IN METRES  
 For true to scale reproduction of this plan, plot at A3 with the Paging Scaling set to None.  
 The contents of this plan are current and correct as of the date stated within and correct as of the date stated within unless otherwise indicated. It is the user's responsibility to verify the accuracy of this plan against the ground by contacting MNG.

Surveyor: TS/BGB  
 Survey Date: 02/09/2025  
 File: S:\1  
 FILES Software-



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 Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.

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Solar Project Lombadina  
 Feature Survey

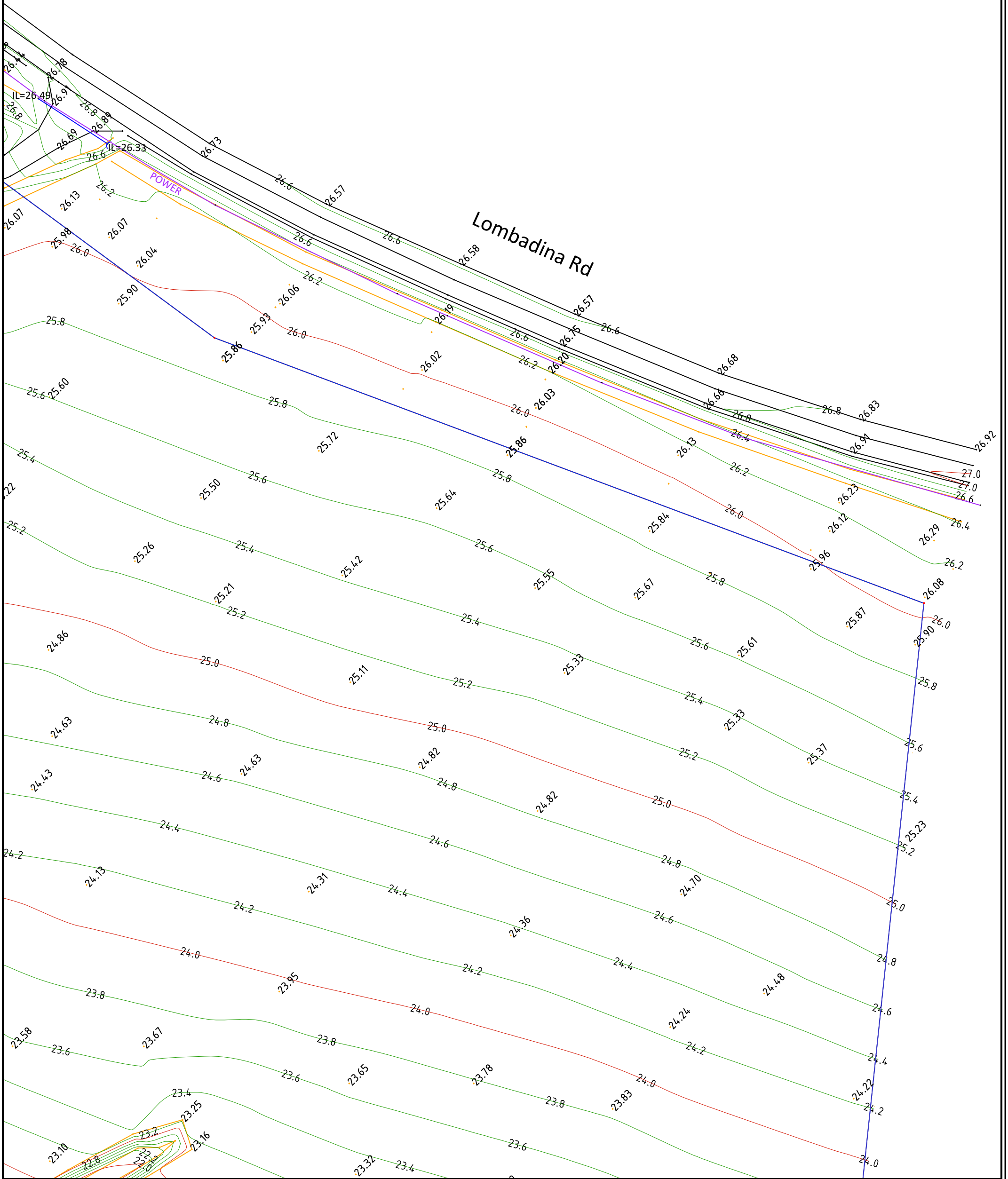
Client: RFF

Project Mgr: BG

Drawn: MGA/WAHD

Job Number: 41987  
 Type: DE - 2  
 Page Number: -A

# Sheet 3



Rev.	Description	Drawn	Date	Checked
A	INITIAL RELEASE	TS/BG	03/09/2025	BG



Surveyor: TS/BG  
 Survey Date: 02/09/2025  
 File:  
 FILES Software:-



Solar Project Lombadina  
 Feature Survey

CLIENT: RFF

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SCALE 1:250  
 ALL DISTANCES ARE IN METRES  
 For true to scale reproduction of this plan, plot at A3 with the Page Scaling set to None

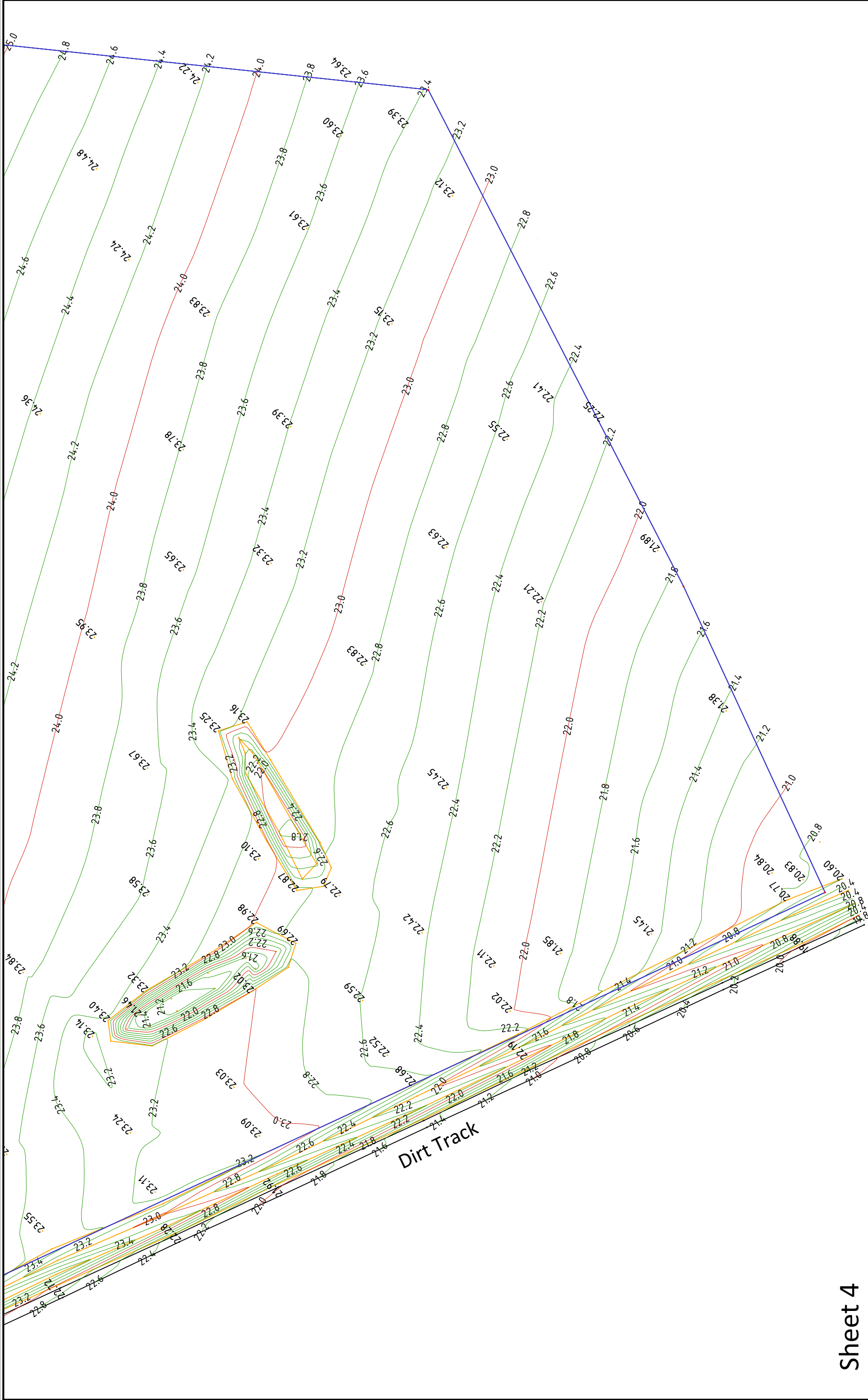
The boundaries depicted on this plan were not re-established as part of this survey, therefore this plan does not guarantee their accuracy. Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.



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Project Mng:	BG	Datum	MNG94
41987	- DE	001	- A
Job Number	Type	Plan Number	



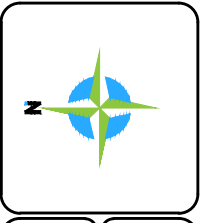
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 For true to scale reproduction of this plan, plot at A3 with the Paging Scaling set to None.

The contents of this plan are current and correct as of the date stated within and persons relying on this data should satisfy themselves of this plan currency by contacting MNG.

Surveyor: TS/BG  
 Survey Date: 02/09/2025  
 File: S:\1 -  
 FILES Software-



The boundaries depicted on this plan were not re-established as part of this survey, therefore this plan does not guarantee their accuracy. Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.

**MNG**  
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Solar Project Lombadina  
 Feature Survey

Project Mgr: BG  
 Datum: MGA84/AHD

Job Number: 41987  
 Type: DE - 2  
 Page Number: -A

CLIENT RFF








# Appendix C: Development Plans



## Aalga Goolil Djarindjin Community Power Project

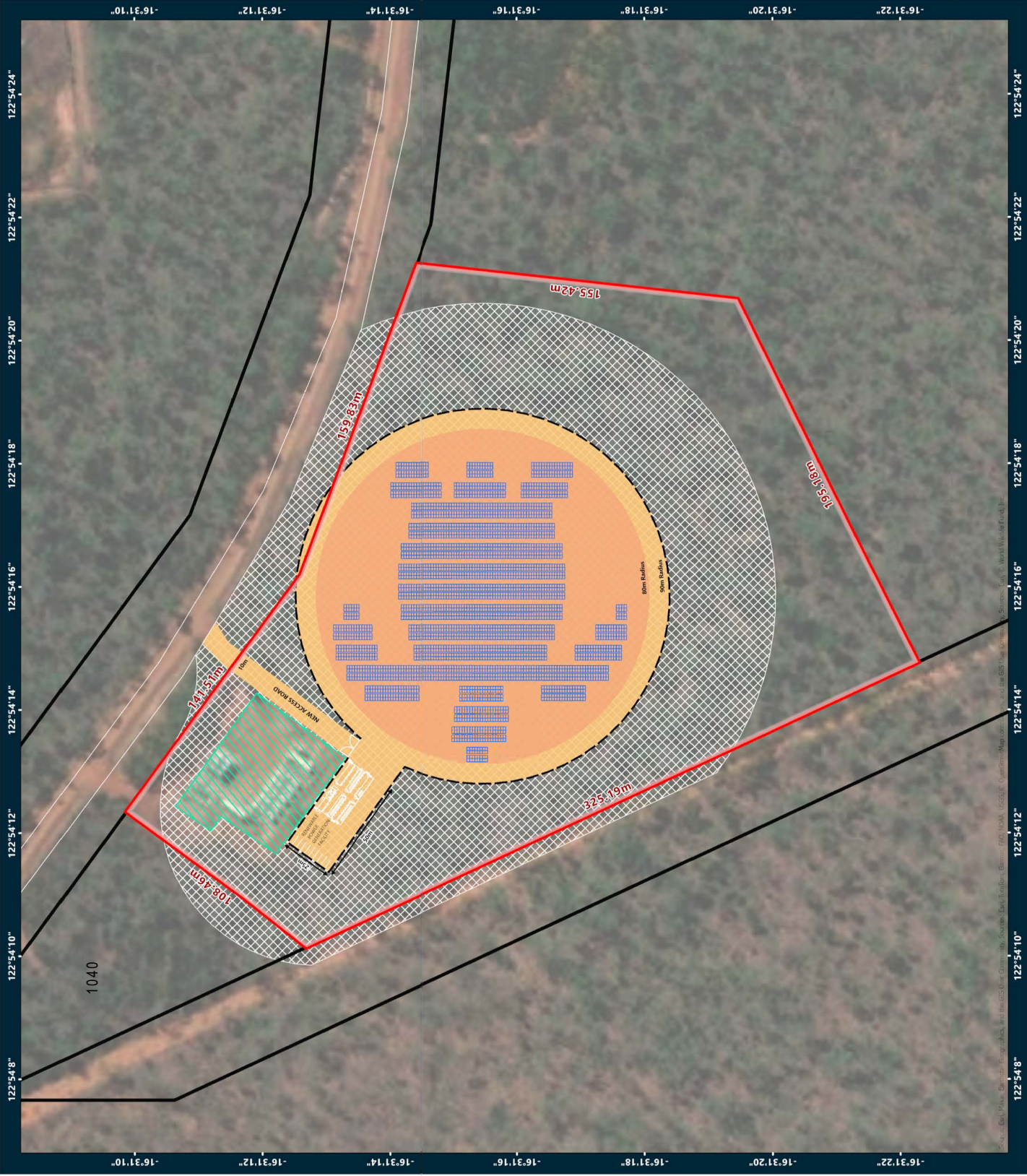
### LEGEND

-  Lot 1039
-  Fenceline
-  Existing Land Tenure Boundaries (LGATE-226)
-  Horizon Power Existing Power Station
-  Asset Protection Zone (APZ)

Djarindjin Aboriginal Corporation and Aalga  
Goolil Djarindjin Community Power Pty Ltd



Coordinate System: GDA2020 MGA Zone 51  
Scale: 1:1,250  
Date: 28/11/2025  
Sheet 1 of 1



**GENERAL NOTES:**

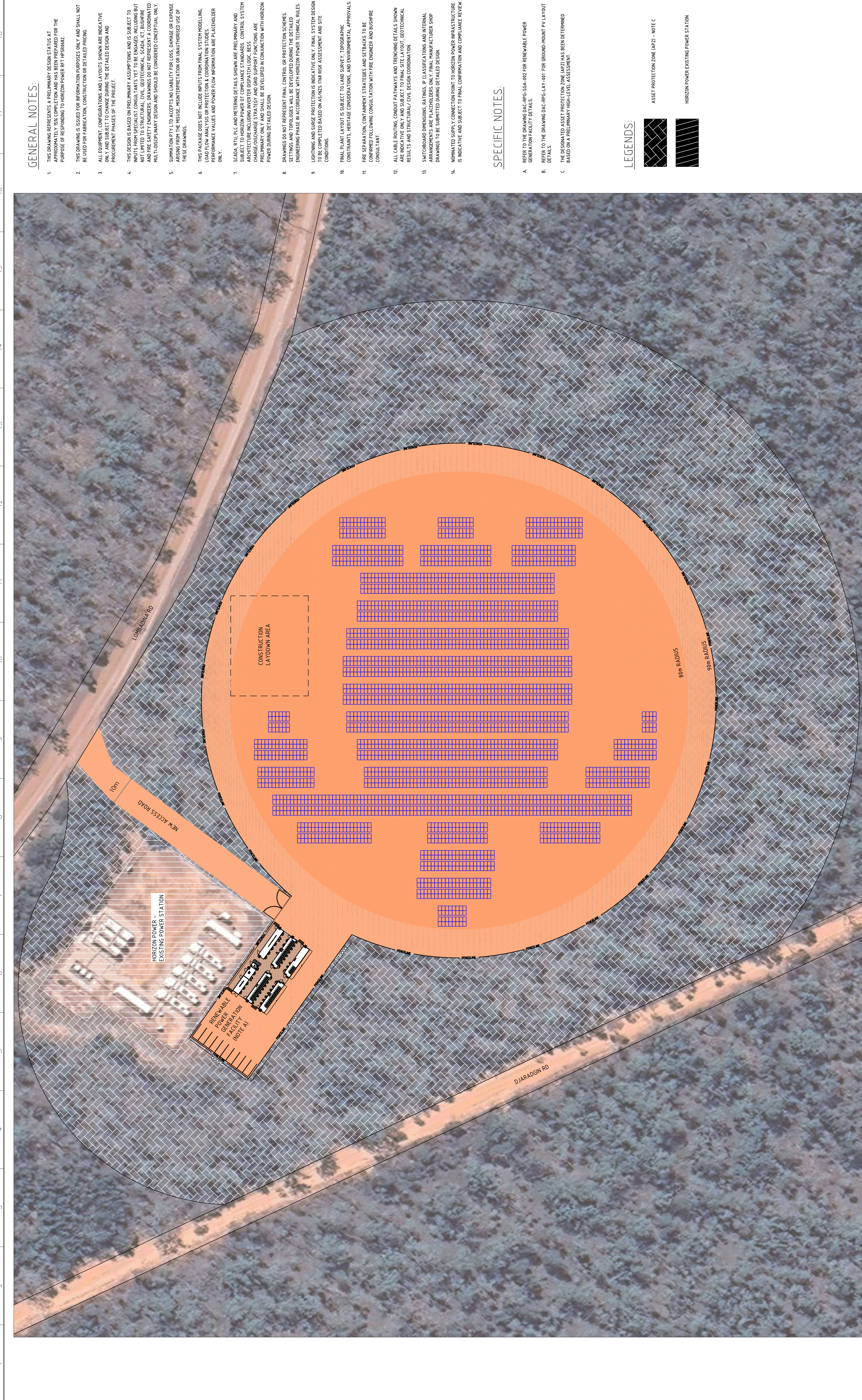
- THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER RPT 19/5696Z.
- THIS DRAWING IS ISSUED FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION, CONSTRUCTION OR DETAILED PRICING.
- ALL EQUIPMENT CONFIGURATIONS AND LAYOUTS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO CHANGE DURING THE DETAILED DESIGN AND PROCUREMENT PHASES OF THE PROJECT.
- THIS DESIGN IS BASED ON PRELIMINARY ASSUMPTIONS AND IS SUBJECT TO INPUTS FROM SPECIALIST CONSULTANTS YET TO BE ENGAGED, INCLUDING BUT NOT LIMITED TO STRUCTURAL, CIVIL, GEOTECHNICAL, SCADA, ICT, BUSHPRE AND FIRE SAFETY ENGINEERS. DRAWINGS DO NOT REPRESENT A COORDINATED MULTI-DISCIPLINARY DESIGN AND SHOULD BE CONSIDERED CONCEPTUAL ONLY.
- SUMMATION LTD ACCEPTS NO LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING FROM THE FRAGILE, MISINTERPRETATION OR UNAUTHORIZED USE OF THESE DRAWINGS.
- THIS PACKAGE DOES NOT INCLUDE INPUTS FROM FINAL SYSTEM MODELING, LOAD FLOW ANALYSIS OR PROTECTION & COORDINATION STUDIES. PERFORMANCE VALUES AND POWER FLOW INFORMATION ARE PLACEHOLDER ONLY.
- SCADA, RTU, PLC AND METERING DETAILS SHOWN ARE PRELIMINARY AND SUBJECT TO HORIZON POWER OF COMPLIANCE STANDARDS. CONTROL SYSTEM ARCHITECTURE INCLUDING INVERTER PER DATA ICH LOGIC, BESS ARCHITECTURE INCLUDING BESS CONTROL AND MONITORING SYSTEMS ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH HORIZON POWER DURING DETAILED DESIGN.
- DRAWINGS DO NOT REPRESENT FINAL CONTROL OR PROTECTION SCHEMES. SETTINGS AND TOPOLOGIES WILL BE DEVELOPED DURING THE DETAILED ENGINEERING PHASE IN ACCORDANCE WITH HORIZON POWER TECHNICAL RULES.
- LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE COMPLETED BASED ON AS/NZS 1788 RISK ASSESSMENT AND SITE CONDITIONS.
- FINAL PLANT LAYOUT IS SUBJECT TO LAND SURVEY, TOPOGRAPHIC CONSTRAINTS, HERITAGE CONSIDERATIONS, AND ENVIRONMENTAL APPROVALS.
- FIRE SEPARATION, CONTAMINANT STRATEGIES, AND SETBACKS TO BE CONSIDERED FOLLOWING CONSULTATION WITH FIRE ENGINEER AND BUSHPRE CONSULTANT.
- ALL CABLE ROUTING, CONDUIT PATHWAYS AND TRENCHING DETAILS SHOWN ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH GEOTECHNICAL, STRUCTURAL, CIVIL DESIGN COORDINATION.
- SWITCHBOARD DIMENSIONS, RATINGS, IP CLASSIFICATIONS AND INTERNAL ARRANGEMENTS ARE PLACEHOLDERS ONLY. FINAL MANUFACTURER SHOP DRAWINGS TO BE SUBMITTED DURING DETAILED DESIGN.
- NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

- REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.
- REFER TO THE DRAWING DAC-RPG-LAT-001 FOR GROUND-MOUNT PV LAYOUT DETAILS.
- THE DESIGNATED ASSET PROTECTION ZONE (APZ) HAS BEEN DETERMINED BASED ON A PRELIMINARY HIGH-LEVEL ASSESSMENT.

**SPECIFIC NOTES:**

- REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.
- REFER TO THE DRAWING DAC-RPG-LAT-001 FOR GROUND-MOUNT PV LAYOUT DETAILS.
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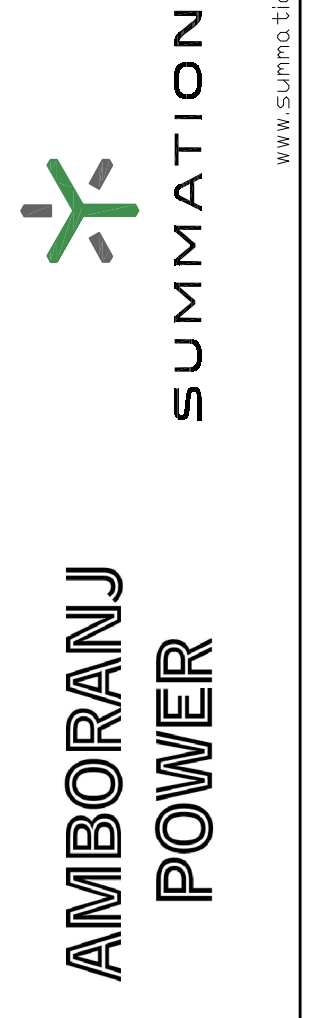
**LEGENDS:**



SITE GENERAL ARRANGEMENT  
SCALE 1:1000

**PRELIMINARY**

DRAWING TITLE:		SITE GENERAL ARRANGEMENT	
DRAWING NUMBER:	DAC-RPG-SGA-001	REV:	A
SCALE:	1 : 1	SHEET:	6 OF 14
		SIZE:	A1



DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY

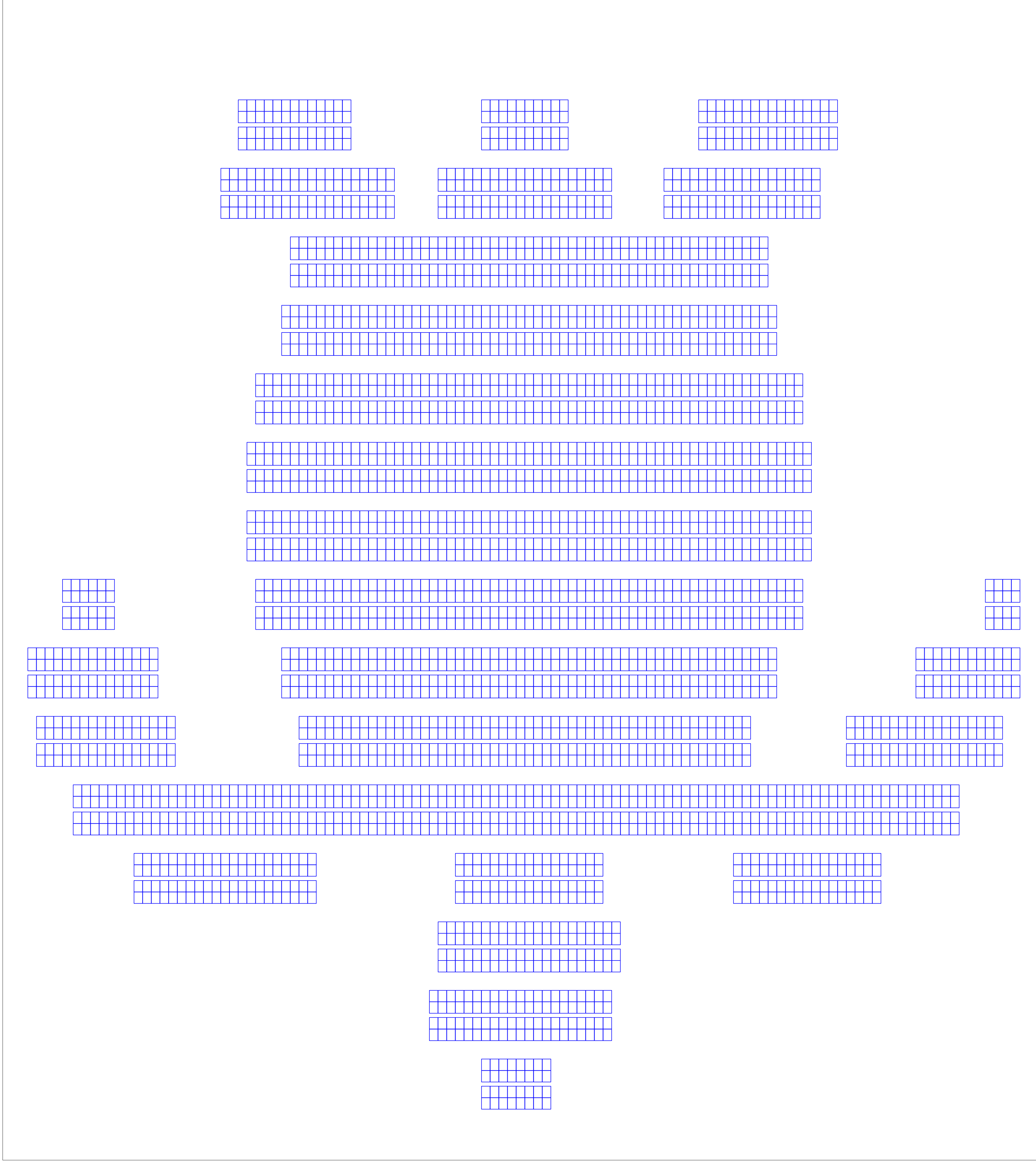
REVISIONS	REV	DATE	ISSUE FOR REVIEW	DRN	CHKD	APP'D	REVISION DESCRIPTION
	A	23.04.25	ISSUE FOR REVIEW	SB	AM	MP	

**GENERAL NOTES:**

- THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 65% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER REF. HPS01662.
- THIS DRAWING IS ISSUED FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION, CONSTRUCTION OR DETAILED PRICING.
- ALL EQUIPMENT CONFIGURATIONS AND LAYOUTS SHOWN ARE INDICATIVE AND SUBJECT TO CHANGE DURING THE DETAILED DESIGN AND PROGRESSIVE PHASES OF THE PROJECT.
- THIS DESIGN IS BASED ON PRELIMINARY ASSUMPTIONS AND IS SUBJECT TO INPUTS FROM SPECIALIST CONSULTANTS YET TO BE ENGAGED INCLUDING BUT NOT LIMITED TO STRUCTURAL, CIVIL, GEOTECHNICAL, SCADA, ICT, BUSHFIRE AND FIRE SAFETY ENGINEERS. DRAWINGS DO NOT REPRESENT A COORDINATED MULTI-DISCIPLINARY DESIGN AND SHOULD BE CONSIDERED CONCEPTUAL ONLY.
- SUMMATION PTY LTD ACCEPTS NO LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING FROM THE MISUSE, MISINTERPRETATION OR UNAUTHORISED USE OF THESE DRAWINGS.
- THIS PACKAGE DOES NOT INCLUDE INPUTS FROM FINAL SYSTEM MODELLING, LOADS, WIND SPEEDS, TEMPERATURES, WIND DIRECTION, WIND PERFORMANCES, PERFORMANCE VALUES AND POWER FLOW INFORMATION ARE PLACEHOLDER ONLY.
- SCADA, RTU, PLC AND METERING DETAILS SHOWN ARE PRELIMINARY AND SUBJECT TO HORIZON POWER OT COMPLIANCE STANDARDS. CONTROL SYSTEM ARCHITECTURE INCLUDING INVERTER DISPATCH LOGIC, BESS CHARGE/DISCHARGE STRATEGY AND GRID SUPPORT FUNCTIONS ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH HORIZON POWER DURING DETAILED DESIGN.
- DRAWINGS DO NOT REPRESENT FINAL CONTROL OR PROTECTION SCHEMES. SETTINGS AND TOPLOGIES WILL BE DEVELOPED DURING THE DETAILED ENGINEERING PHASE IN ACCORDANCE WITH HORIZON POWER TECHNICAL RULES.
- LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE COMPLETED BASED ON AS/NZS 1768 RISK ASSESSMENT AND SITE CONDITIONS.
- FINAL PLANT LAYOUT IS SUBJECT TO LAND SURVEY, TOPOGRAPHIC CONSTRAINTS, HERITAGE CONSIDERATIONS, AND ENVIRONMENTAL APPROVALS.
- FIRE SEPARATION, CONTAINMENT STRATEGIES AND SETBACKS TO BE CONFIRMED FOLLOWING CONSULTATION WITH FIRE ENGINEER AND BUSHFIRE CONSULTANT.
- ALL CABLE ROUTING, CONDUIT PATHWAYS AND TRENCHING DETAILS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO FINAL SITE LAYOUT, GEOTECHNICAL RESULTS AND STRUCTURAL/CIVIL DESIGN COORDINATION.
- SWITCHGEAR DIMENSIONS, RATINGS, IP CLASSIFICATIONS AND INTERNAL CONNECTIONS TO BE CONFIRMED WITH MANUFACTURER SHOP DRAWINGS TO BE SUBMITTED DURING DETAILED DESIGN.
- NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

**SPECIFIC NOTES:**

- DESIGN IS BASED ON 3408 x 1000mm PERC-RX 171W SOLAR PANELS.
- GROUND MOUNT SOLAR PV DESIGN DESIGNED BASED ON 20-DEGREE EAST-WEST ORIENTATION AND 10-DEGREE TILT. ROW SPACING OF 2.4 METERS ALLOCATED FOR MAINTENANCE AND ACCESSIBILITY.
- FINAL DC DESIGN AND INSTALLATION OF THE PROJECT IS TO BE CERTIFIED BY A SAA-ACCREDITED AND FACILEE.
- REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.
- REFER TO THE DRAWING DAC-RPG-001 FOR GENERAL SITE ARRANGEMENTS.



GROUND-MOUNT PV LAYOUT  
SCALE 1:300

**PRELIMINARY**

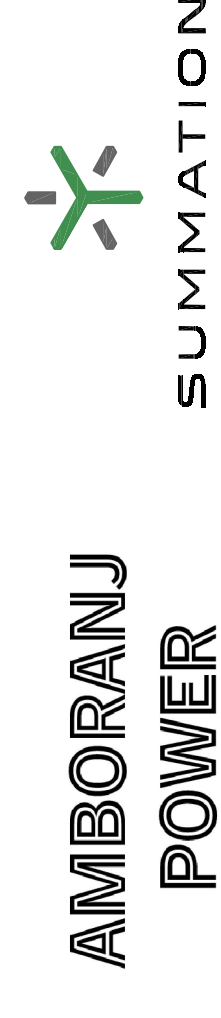
DRAWING TITLE:

GROUND-MOUNT PV LAYOUT

DRAWING NUMBER: DAC-RPG-LAY-001

REV: A

SCALE: 1 : 1 SHEET: 8 OF 14 SIZE: A1



DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY

REV	DATE	ISSUE FOR REVIEW	DESCRIPTION
A	23.04.25	ISSUE FOR REVIEW	

DRN	CHKD	APP'D
SB	AM	MP

REVISIONS	REVISION DESCRIPTION

REV	DATE	ISSUE FOR REVIEW	REVISION DESCRIPTION	DRN	CHKD	APP'D
A	23.04.25	ISSUE FOR REVIEW		SB	AM	MP

DJARINDJIN ABORIGINAL CORPORATION  
 FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
 NEW RENEWABLE POWER GENERATION FACILITY



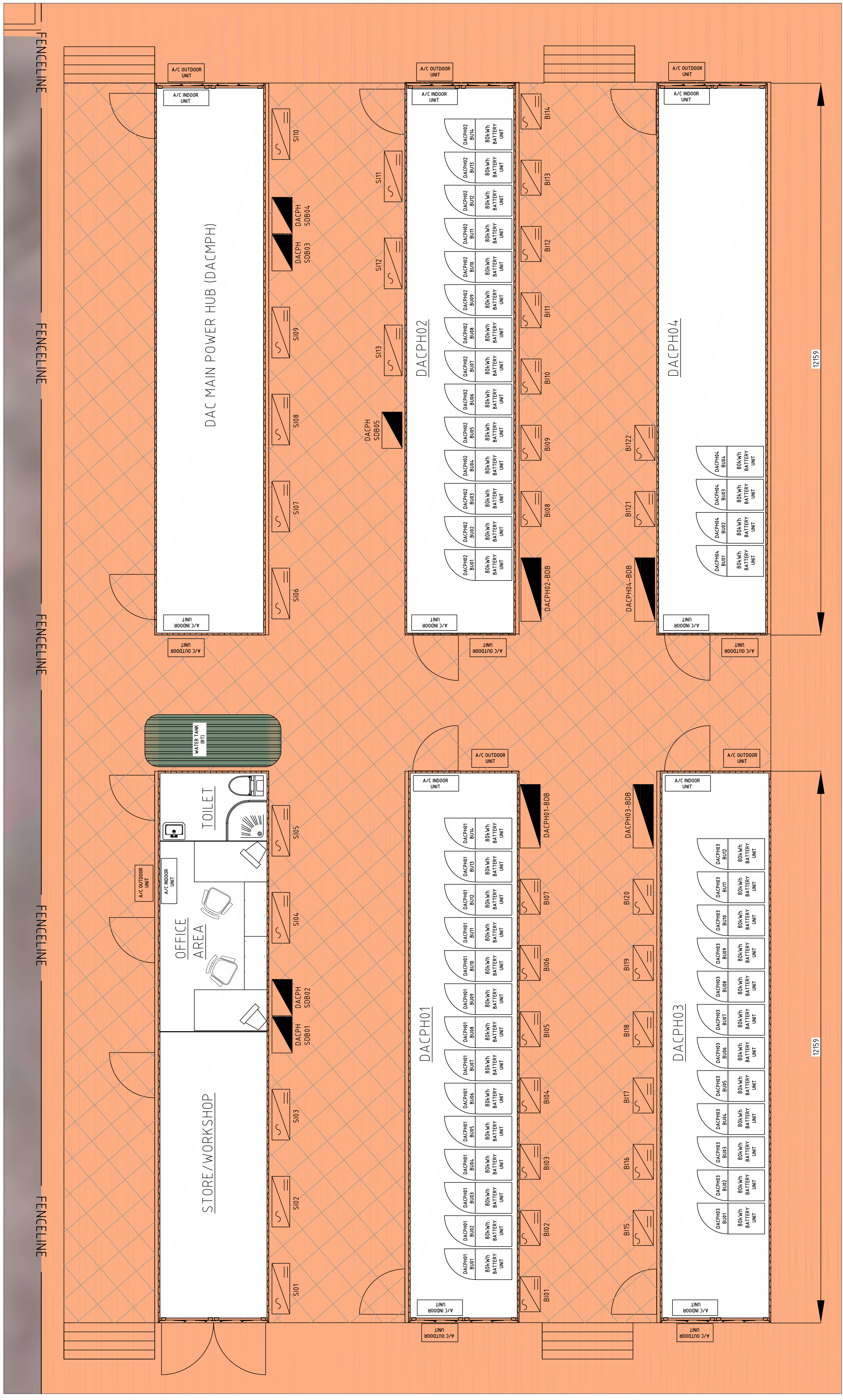
**AMBORANJ POWER**



DRAWING TITLE: SITE ARRANGEMENT – RPG FACILITY	
DRAWING NUMBER: DAC-RPG-SGA-002	REV: A
SCALE: 1 : 1	SHEET: 7 OF 14
SIZE: A1	

**PRELIMINARY**

SITE ARRANGEMENT – RENEWABLE POWER GENERATION FACILITY  
 SCALE 1:5



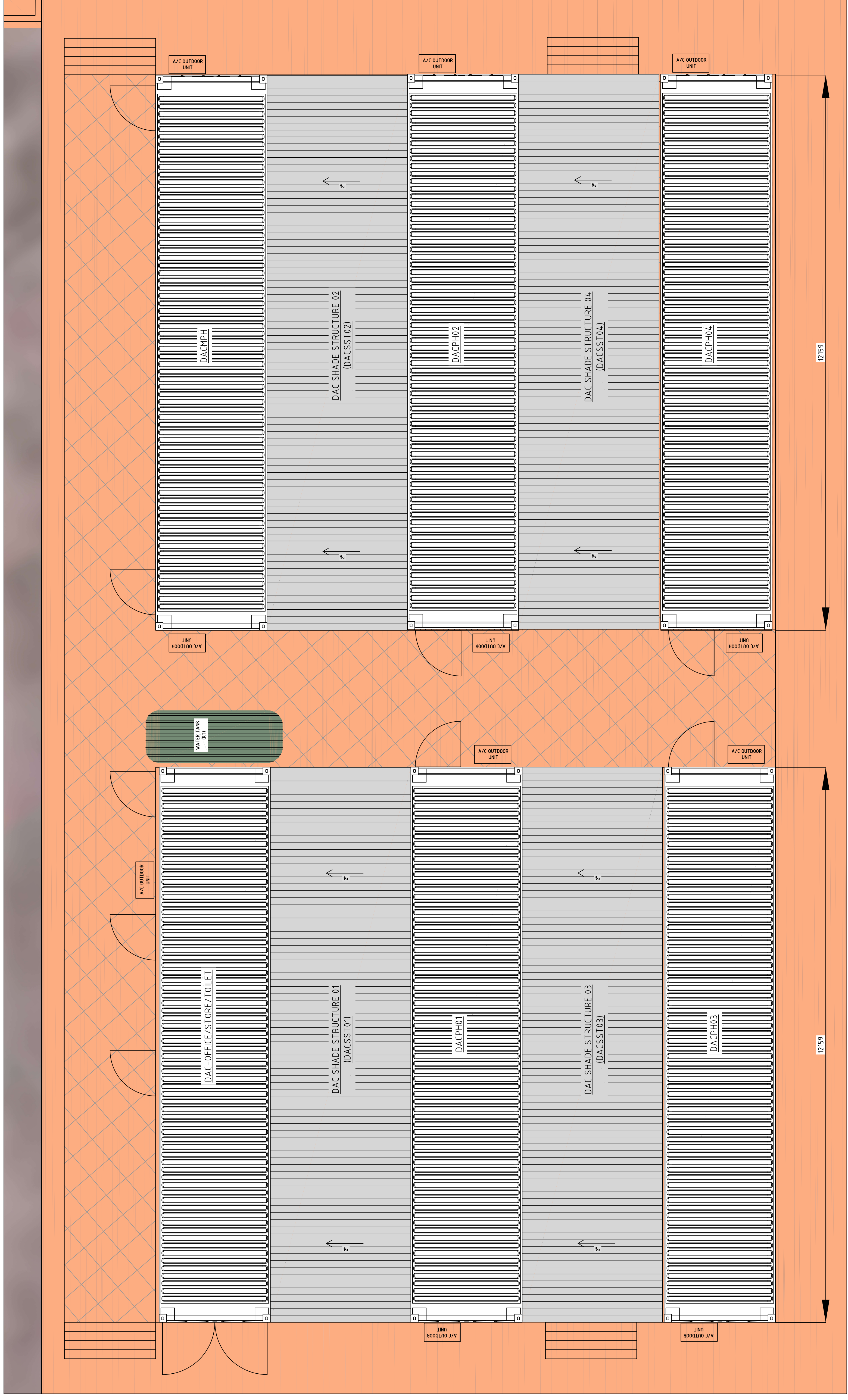
- GENERAL NOTES:**
- THE DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER REF HPSPR0882.
  - THIS DRAWING IS ISSUED FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION, CONSTRUCTION OR DETAILED PRICING.
  - ALL EQUIPMENT, CONFIGURATIONS AND LAYOUTS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO CHANGE DURING THE DETAILED DESIGN AND PROCUREMENT PHASES OF THE PROJECT.
  - THIS DESIGN IS BASED ON PRELIMINARY ASSUMPTIONS AND IS SUBJECT TO INPUTS FROM SPECIALIST CONSULTANTS YET TO BE ENGAGED, INCLUDING BUT NOT LIMITED TO ELECTRICAL ENGINEERS, MECHANICAL ENGINEERS, AND FIRE SAFETY ENGINEERS. DRAWINGS DO NOT REPRESENT A COORDINATED MULTI-DISCIPLINARY DESIGN AND SHOULD BE CONSIDERED CONCEPTUAL ONLY.
  - SUMMATION PTY LTD ACCEPTS NO LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING FROM THE MISUSE, MISINTERPRETATION OR UNAUTHORIZED USE OF THESE DRAWINGS.
  - THIS PACKAGE DOES NOT INCLUDE INPUTS FROM FINAL SYSTEM MODELLING, LOAD FLOW ANALYSIS OR PROTECTION & COORDINATION STUDIES. PERFORMANCE VALUES AND POWER FLOW INFORMATION ARE PLACEHOLDER ONLY.
  - SCADA, RTU, A/C AND WETTING DETAILS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE. THE CONTROL SYSTEM ARCHITECTURE INCLUDING INVERTER DISPATCH LOGIC, BESS CHARGE/DISCHARGE STRATEGY AND GRID SUPPORT FUNCTIONS ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH HORIZON POWER DURING DETAILED DESIGN.
  - DRAWINGS DO NOT REPRESENT FINAL CONTROL OR PROTECTION SCHEMES. SETTINGS AND TOPOLOGIES WILL BE DEVELOPED DURING THE DETAILED ENGINEERING PHASE IN ACCORDANCE WITH HORIZON POWER TECHNICAL RULES.
  - LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN IS EXPECTED BASED ON AS/NZS 1768 THIS RISK ASSESSMENT AND SITE CONDITIONS.
  - FINAL PLANT LAYOUT IS SUBJECT TO LAND SURVEY, TOPOGRAPHIC CONSTRAINTS, HERITAGE CONSIDERATIONS, AND ENVIRONMENTAL APPROVALS.
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  - NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL COORDINATION AND COMPLIANCE REVIEW.
- SPECIFIC NOTES:**
- DESIGN IS BASED ON 19 x 5Mw STP10-49 100kVA SOLAR INVERTERS.
  - DESIGN IS BASED ON 22 x 5Mw SL-X SKVA BATTERY INVERTERS.
  - DESIGN IS BASED ON 44 x 75kVAH TCS UPS. ALL BATTERY BATTERY UNIT. THESE UNITS ARE PROPOSED TO BE INSTALLED IN STANDARD 40 FOOT SHIPPING CONTAINERS.
  - REFER TO THE DRAWING DAC-RPG-SGA-001 FOR SITE GENERAL ARRANGEMENT.

**GENERAL NOTES:**

1. THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER REF HPSP0482.
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9. LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN IS SUBJECT TO BE DEVELOPED IN ACCORDANCE WITH HORIZON POWER TECHNICAL RULES BASED ON AS/NZS 1768 RISK ASSESSMENT AND SITE CONDITIONS.
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14. NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL COORDINATION AND COMPLIANCE REVIEW.

**SPECIFIC NOTES:**

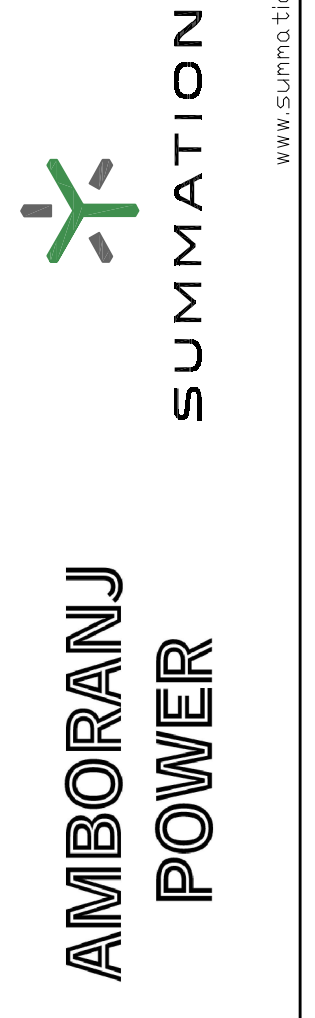
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- B. REFER TO THE DRAWING DAC-RPG-SSA-001 FOR SITE GENERAL ARRANGEMENT.
- C. REFER TO THE DRAWING DAC-RPG-SSA-002 FOR RPG FACILITY - GENERAL ARRANGEMENT DETAILS.



SHADE STRUCTURE - RENEWABLE POWER GENERATION FACILITY  
SCALE 1:45

**PRELIMINARY**

DRAWING TITLE: SHADE STRUCTURE - RPG FACILITY		REV: A
DRAWING NUMBER: DAC-RPG-SSA-001		SIZE: A1
SCALE: 1 : 1	SHEET: 6 OF 14	



DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM - AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY

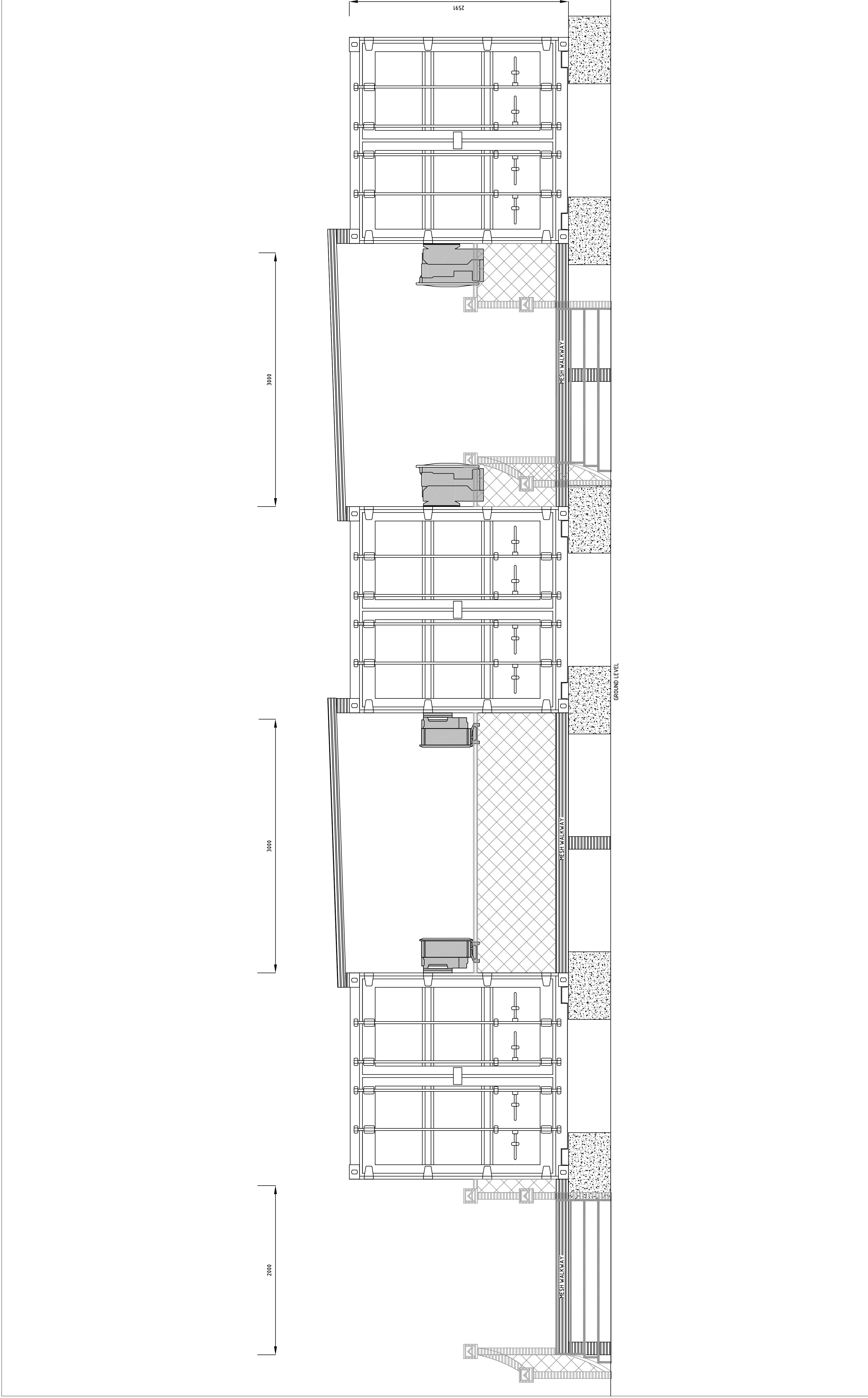
REV	DATE	ISSUE FOR REVIEW	REVISION DESCRIPTION
A	23.04.25	SB	AM, MP
		DRN	CHKD/APPD

**GENERAL NOTES:**

1. THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER REF MFSR0482.
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9. LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE SUBMITTED BASED ON AS/NZS 1788 RISK ASSESSMENT AND SITE CONDITIONS.
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- B. REFER TO THE DRAWING DAC-RPG-SGA-401 FOR SITE GENERAL ARRANGEMENT.
- C. REFER TO THE DRAWING DAC-RPG-SGA-402 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.



RENEWABLE POWER GENERATION FACILITY - ELEVATION  
SCALE 1:25

**PRELIMINARY**

DRAWING TITLE: RPG FACILITY - ELEVATION	
DRAWING NUMBER: DAC-RPG-ELV-001	REV: A
SCALE: 1 : 1	SHEET: 12 OF 14
SIZE: A1	

**AMBORANJ POWER**  
SUMMATION

www.summation.com.au



DJARINDJIN ABORIGINAL CORPORATION  
FUTURE ENERGY SYSTEM - AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY

REV	DATE	ISSUE FOR REVIEW	REVISION DESCRIPTION
A	23.04.25	SB AM MP	DRN CHKD APP'D





# CONTENT:

Examples, explanation

## B. EARLY BUILDING WORKS / CIVIL WORKS & STRUCTURAL WORKS

- 2.6 Energy Hub Foundation.....2
- 2.7 Ground-mount / driven posts.....3
- 2.12 Trenches and manholes.....4
- 2.14 Fencing.....5
- 2.15 Security and control.....6



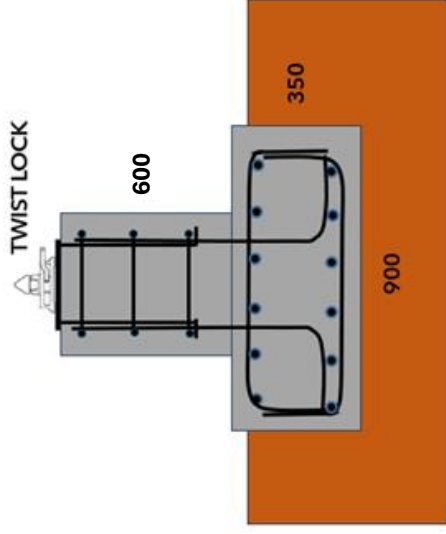
**DALLCON**

*Our Reputation is set in Concrete*

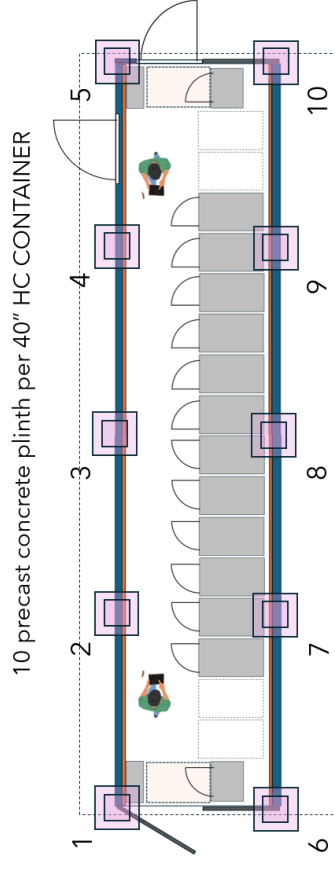
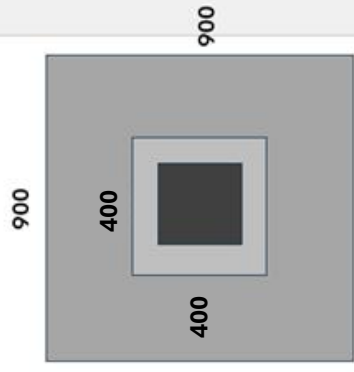


Precast Custom Footings With Pedestals  
 (900mm x 900mm x 350mm with  
 400mm x 400mm x 600mm high Pedestal)  
 Reo and Swift lifts Cast In as Required -Unit  
 Weight is 930KG / 6x10=60pcs.

SECTION



TOP VIEW



 DJARINDJIN ENERGY HUB

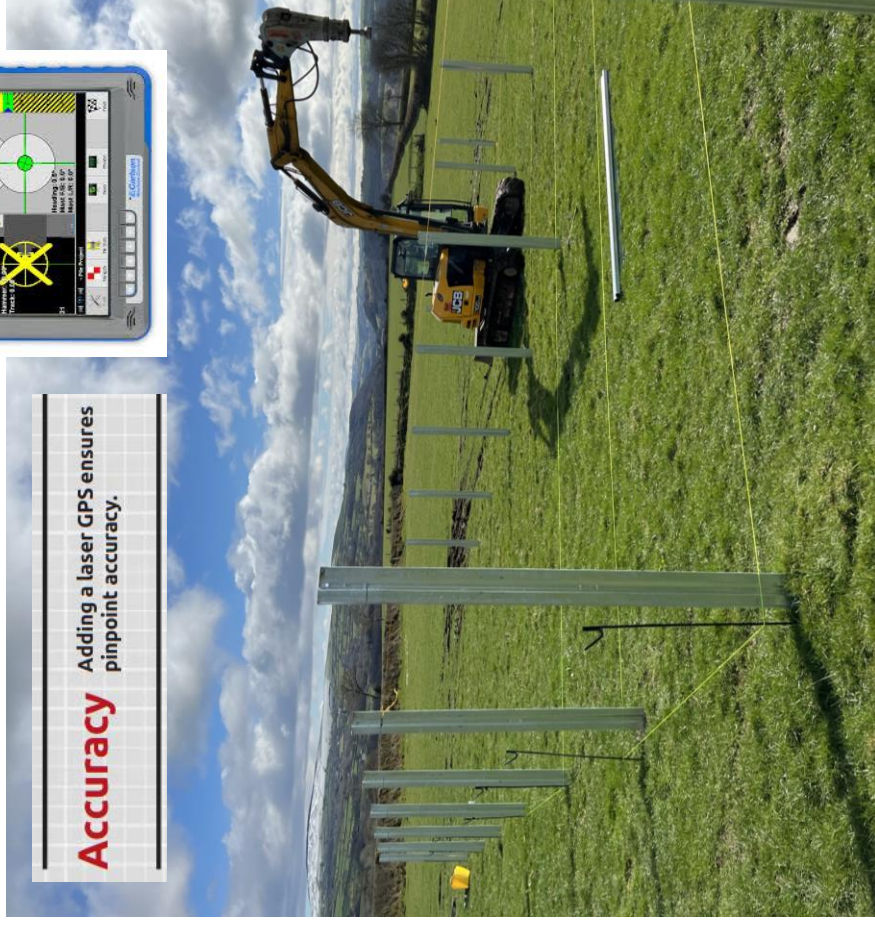
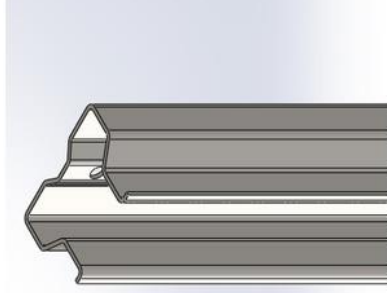
## CIVIL WORKS & STRUCTURAL WORKS

### 2.6 Energy Hub Foundation

## SolarTerrace II-A

Single leg, Pile-driven into ground

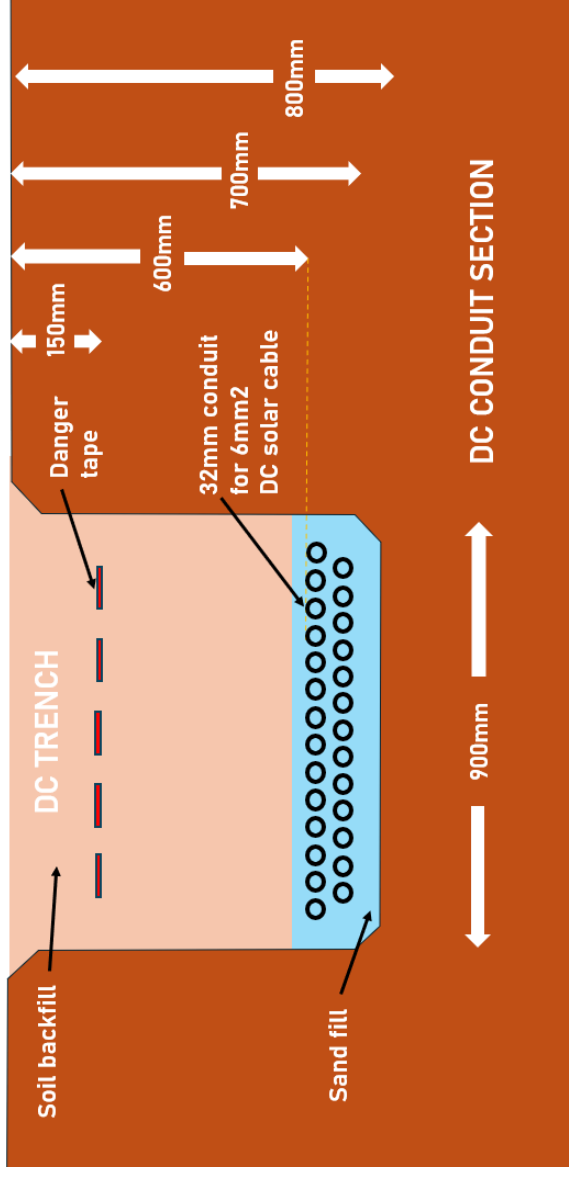
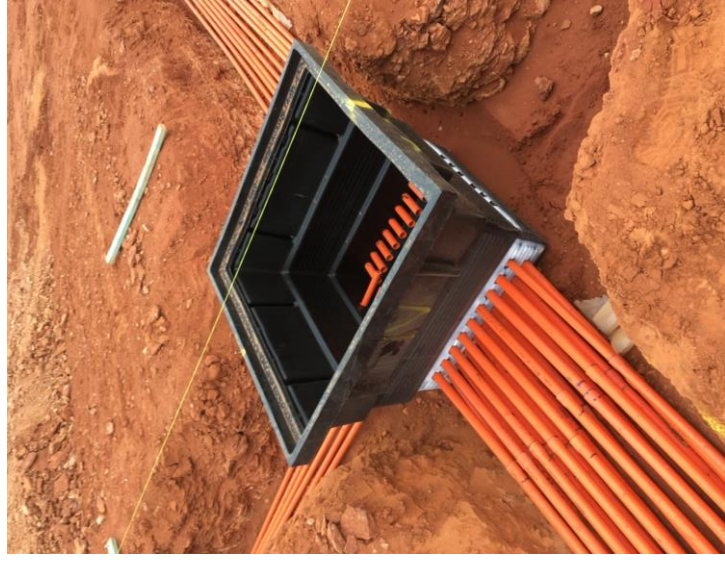
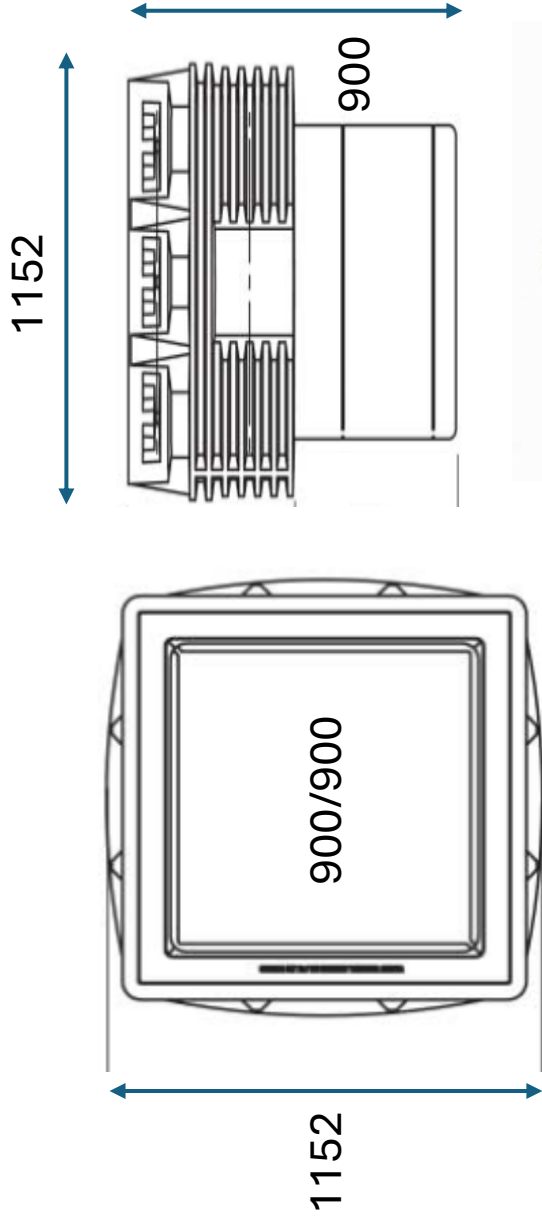
Clenergy Solar Terrace II-S ER-CP-2800/A C-Post driven into the ground 1.80m UG (2.8m C post)



**Accuracy** Adding a laser GPS ensures pinpoint accuracy.

## CIVIL WORKS & STRUCTURAL WORKS

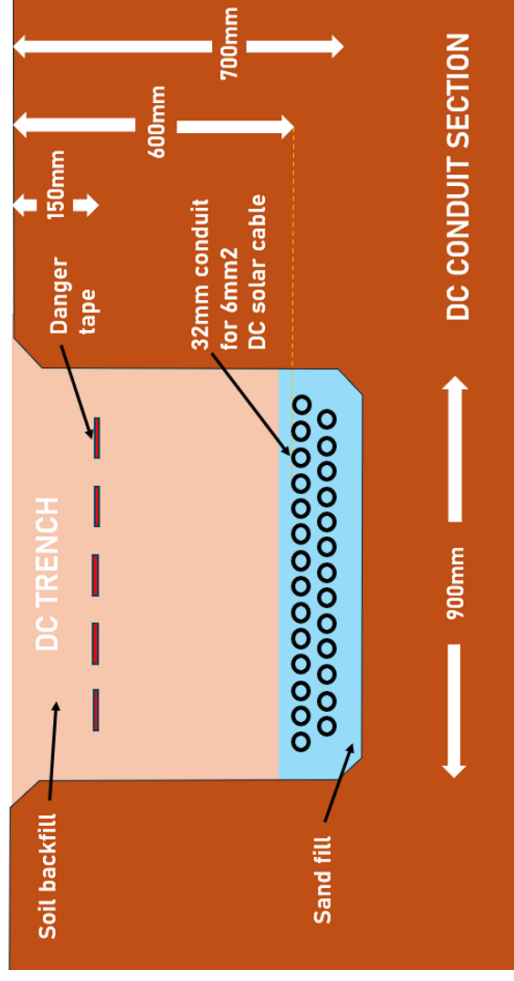
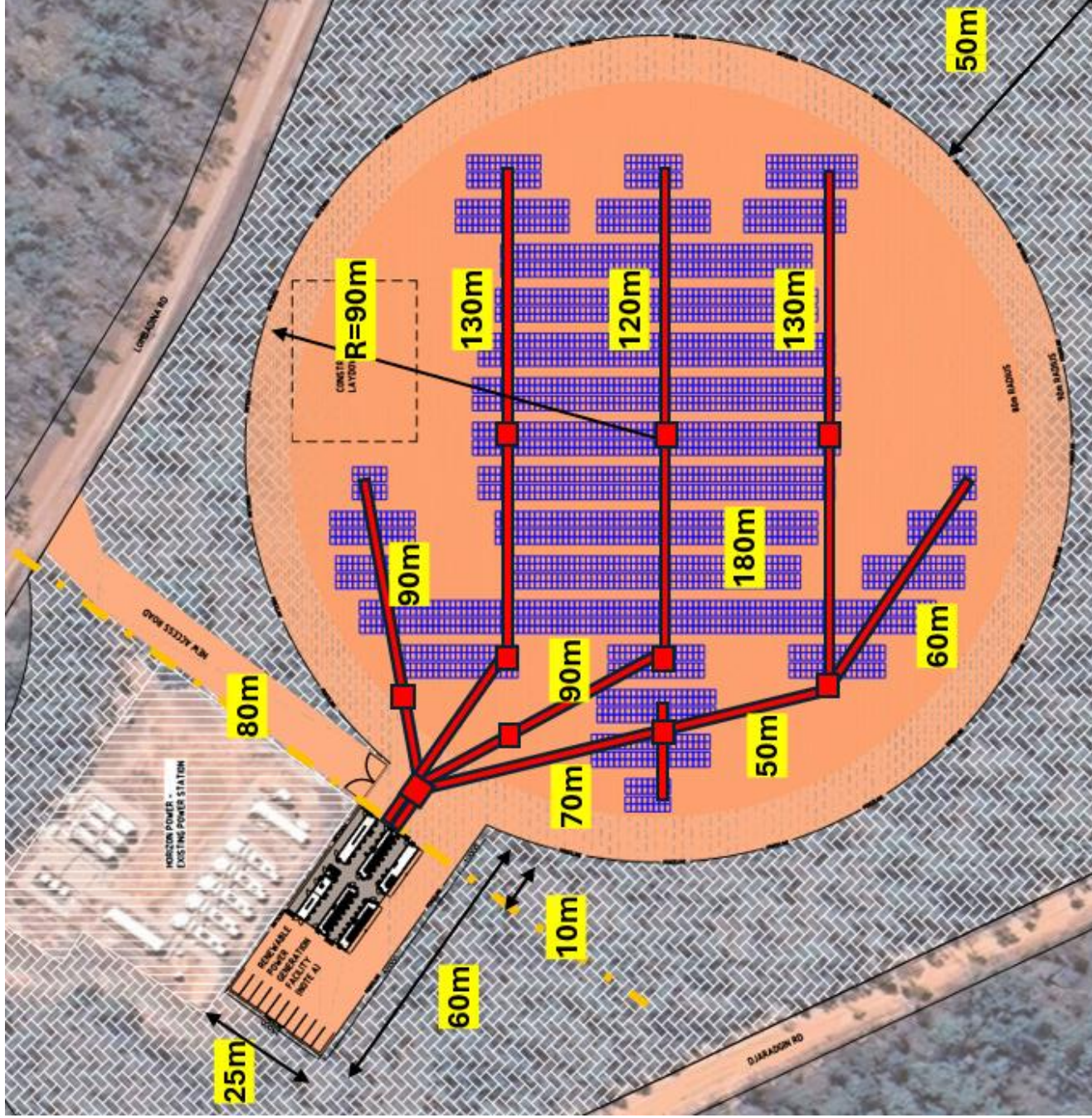
### 2.7 Ground-mount / driven posts



- DC UG cable trenches approx. 760m (800/900mm)
- UG pits approx. 10pcs (1100/900mm)
- Earthing trenches (if required)
- UG DC conduit Installation (HD Ø32 conduits)
- Tranches for security camera 250m (300/300mm)
- UG CAT6 PoE++ conduit Installation (HD Ø32 conduits)

## CIVIL WORKS & STRUCTURAL WORKS

### 2.12 Trenches and manholes

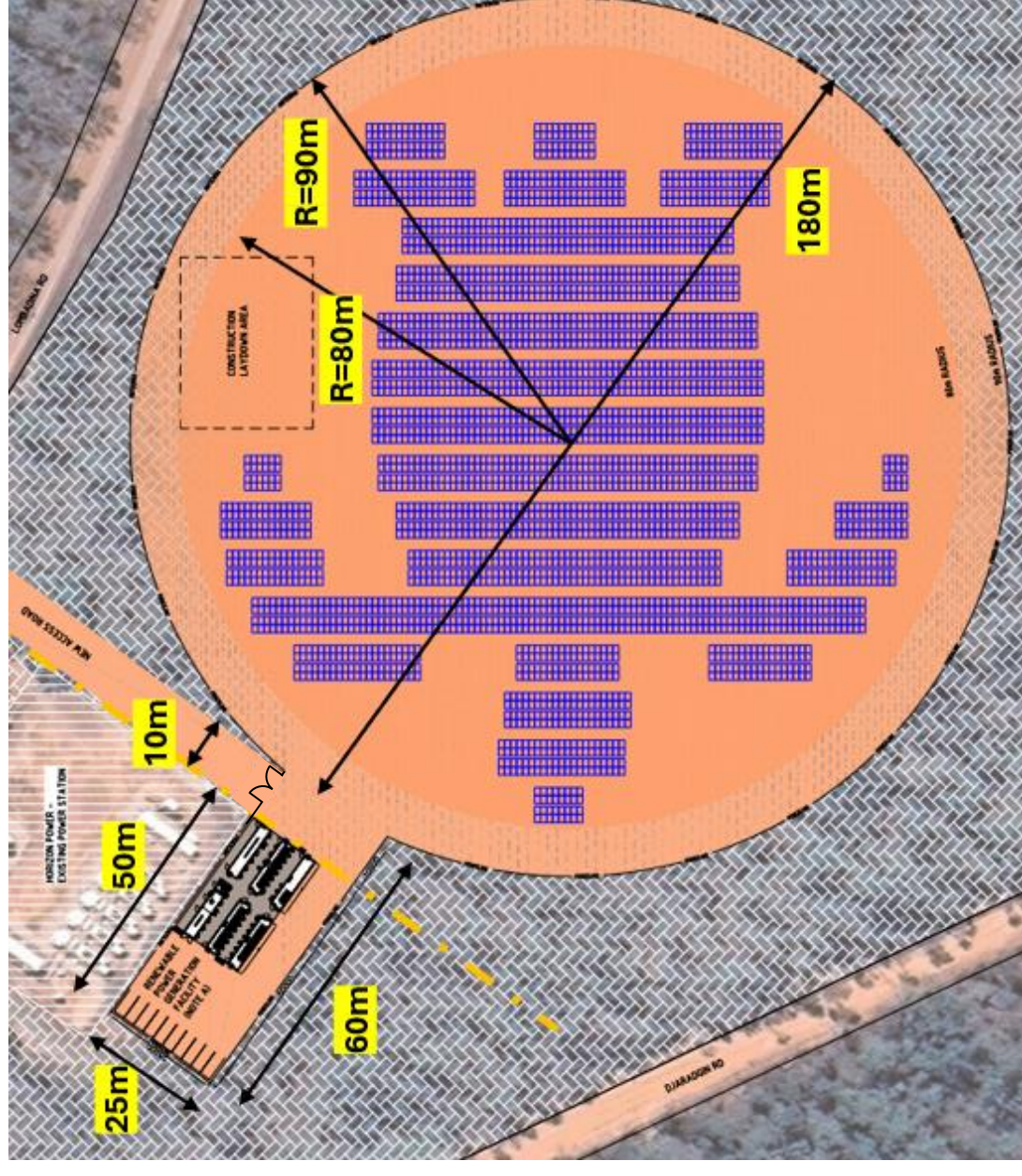


## CIVIL WORKS & STRUCTURAL WORKS

### 2.12 Trenches and manholes



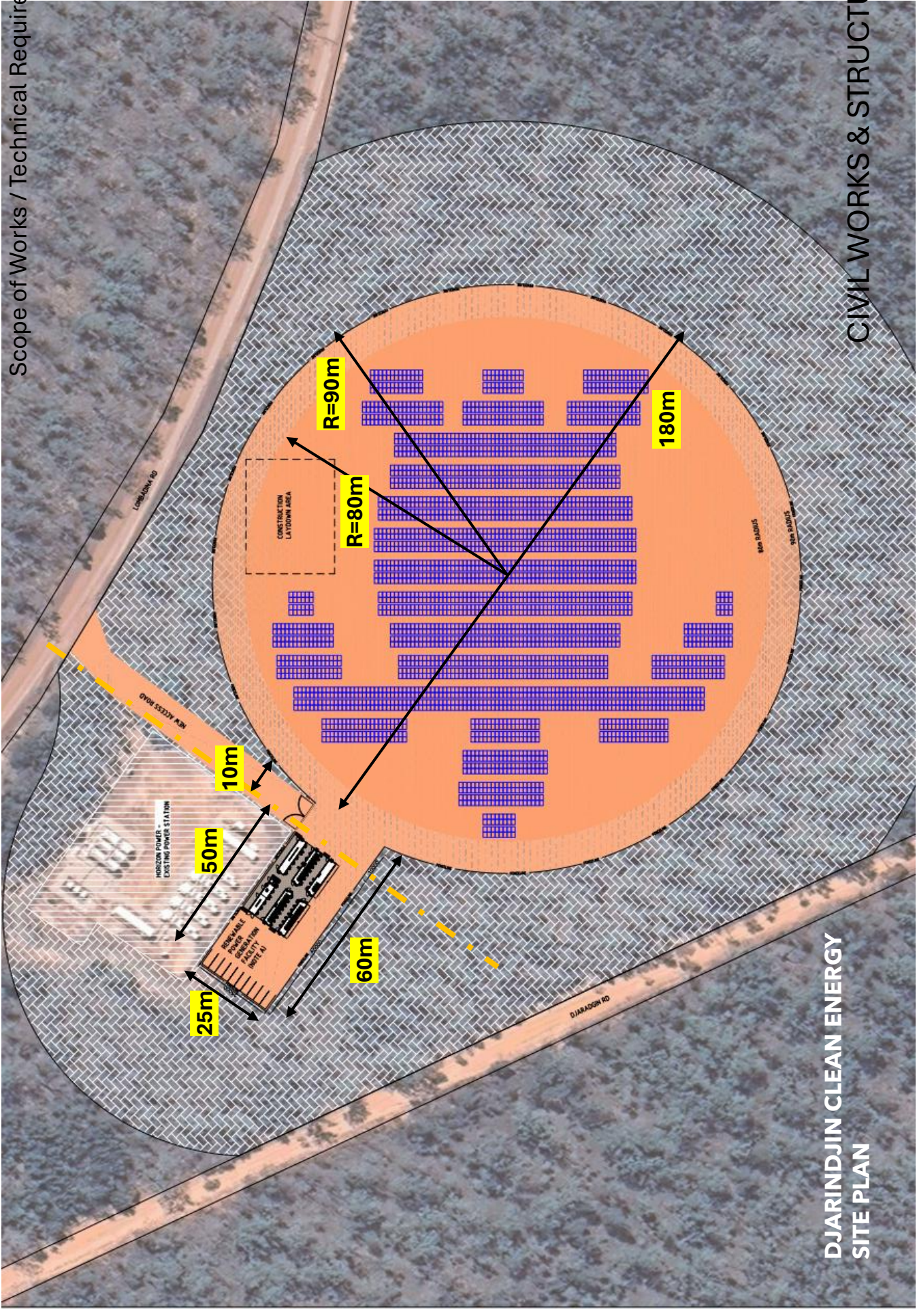
**Perimeter fencing** (e.g. 2.5m high) length: 25+50+60m+540=**675m**  
 Mesh Heights: 2100, Mesh Sizes: 3.15mm wire (Galvanised, Heavy Duty)  
 Cranked posts, diamond size pitch of 50mm, Barbed wire on top 3 rows  
 Concrete footing 2.8-3m subject to cyclone rating  
**Entry gate 3m+3m** wide opening, 4m fixed part, Total 10m wide



## CIVIL WORKS & STRUCTURAL WORKS

### 2.14 Fencing

25+50+60m+540  
=675m



DJARINDJIN CLEAN ENERGY  
SITE PLAN

CIVIL WORKS & STRUCTURAL WORKS  
2.14 Fencing

# CCTV (UniFi protect), Security cameras

Motion Detection

Person Detection

Vehicle Detection

License Plate Recognition

Smoke/CO Alarm Detection

Motion Zones

Privacy Zones

Crossing Lines

No License Fees

Enterprise-Grade Scalability

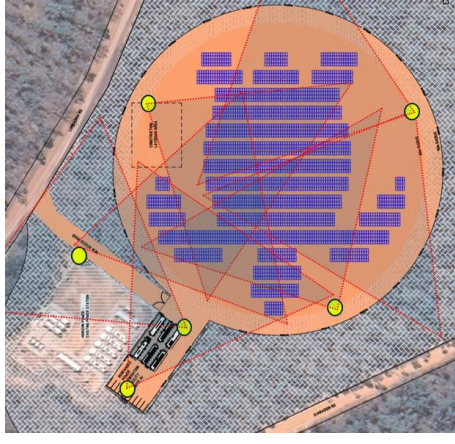
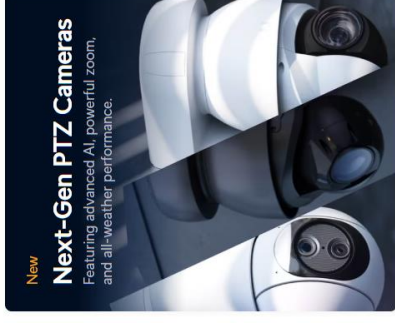
Private Storage

Ultra-Low Latency

AI Video Analytics

Centralized Remote Management

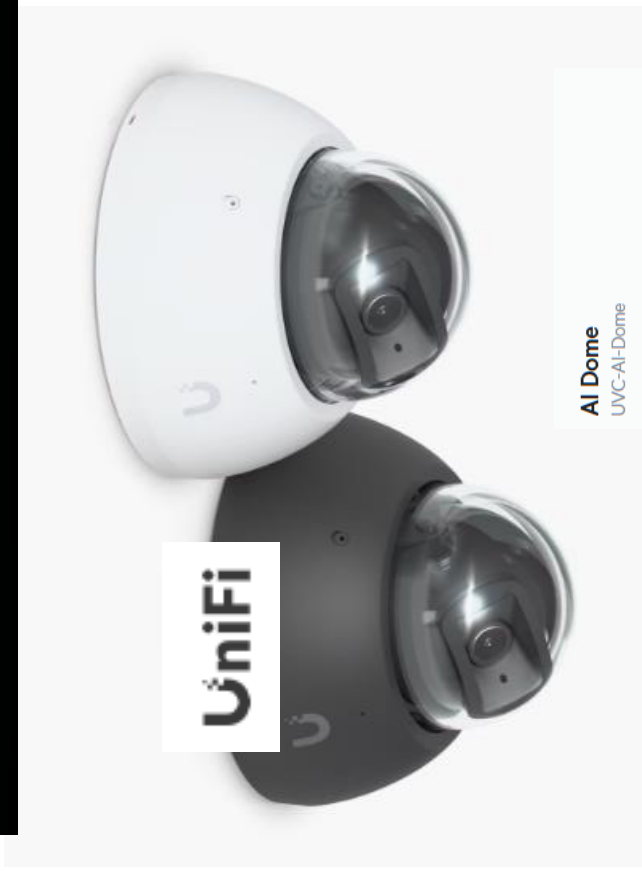
# AI PTZ Industrial UVC-AI-PTZ



IR Night Vision 100m  
Resolution 4K  
Zoom Mode 22x Optical  
Weatherproofing IP66

Mounting Pole mount, 5 units

**AI PTZ Industrial UVC-AI-PTZ**  
Industrial-grade 4K PoE++ PTZ camera with enhanced AI capabilities, 22x optical zoom, an...  
Enhanced AI 4K Outdoor Exposed  
\$1,299.00 [Select](#)



**AI Dome UVC-AI-Dome**  
All-weather, vandal-proof 4K PoE dome camera with enhanced AI capabilities and long-range l...  
Enhanced AI 4K IK10  
\$399.00 [Select](#)

PLE Computers Unit 1, 46  
Buckingham Drive  
Wangara WA 6065  
(08) 6316 3881

## CIVIL WORKS & STRUCTURAL WORKS

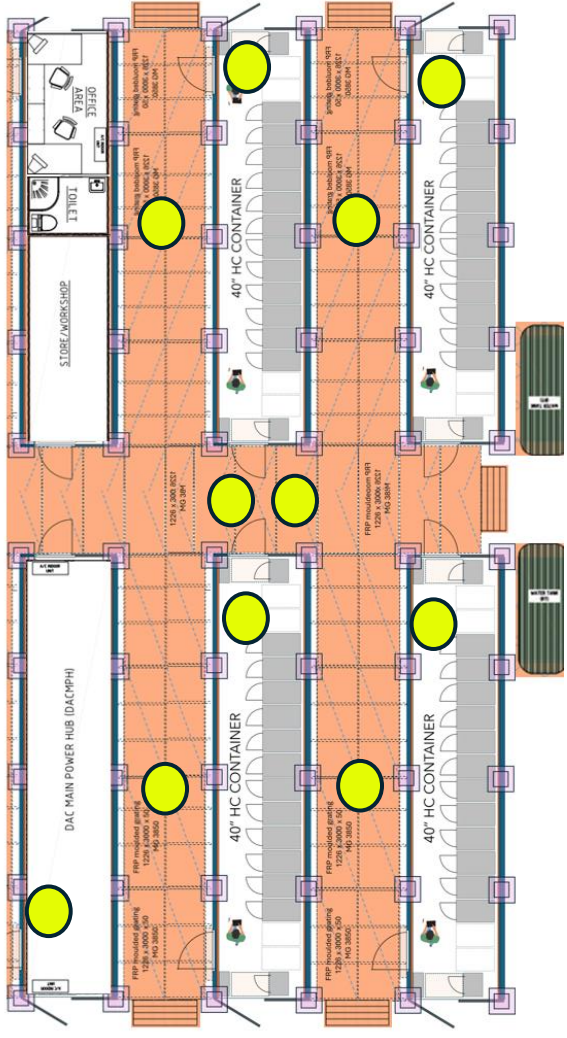
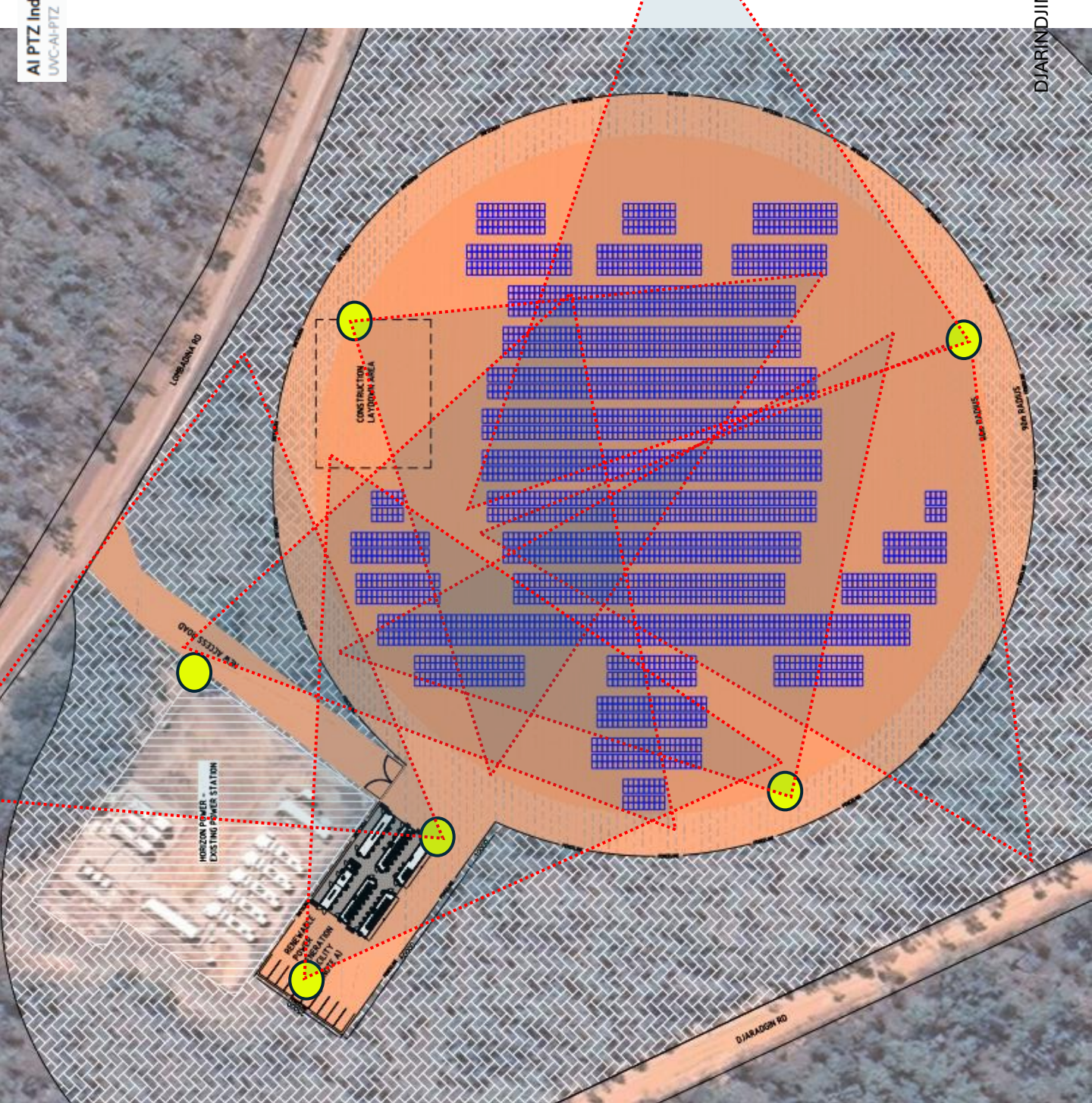
### 2.15 Security and control



AI PTZ Industrial  
UVC-AI-PTZ

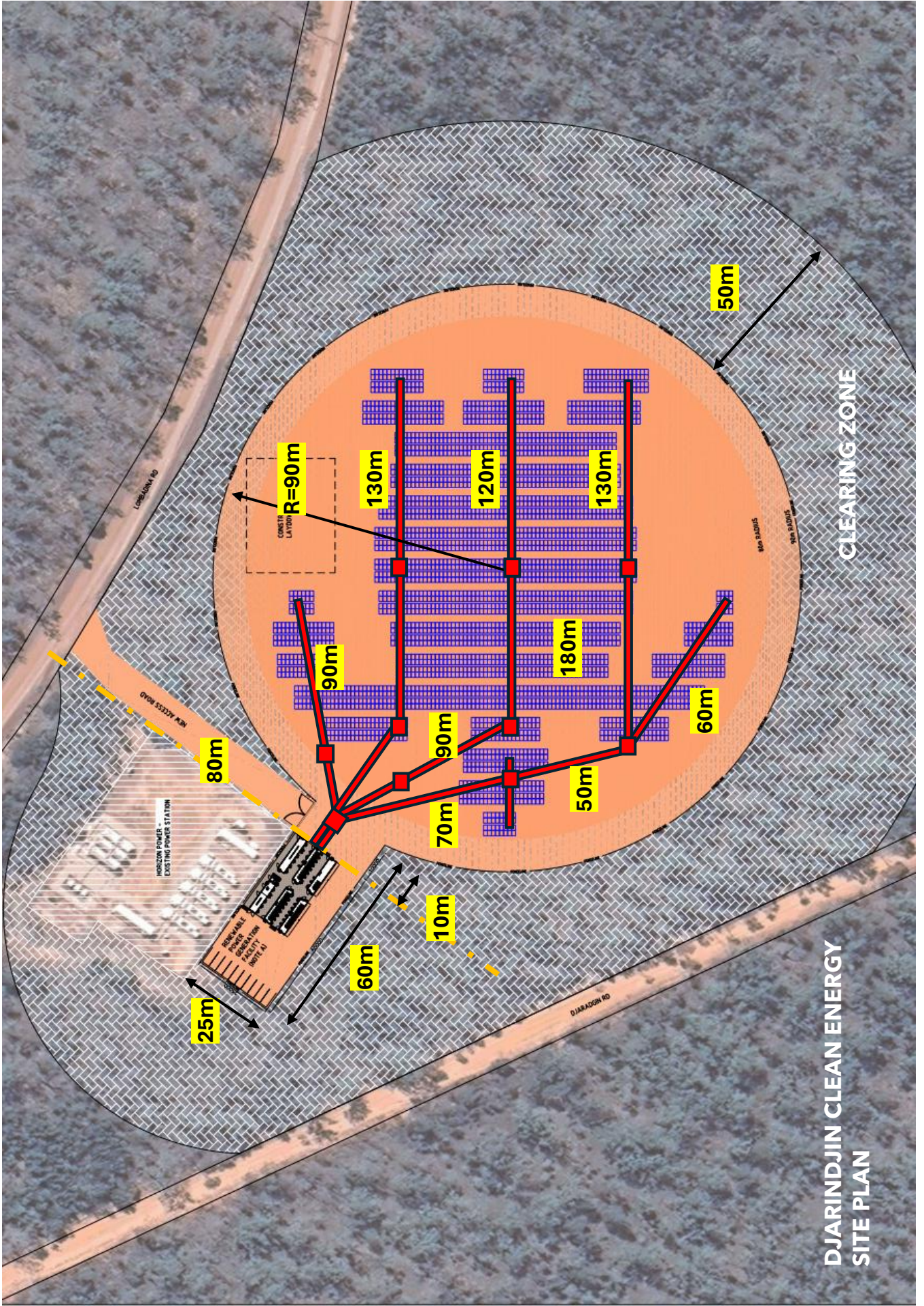


AI Dome  
UVC-AI-Dome



## CIVIL WORKS & STRUCTURAL WORKS

### 2.15 Security and control



**DJARINDJIN CLEAN ENERGY  
SITE PLAN**



## CONTENT:

Examples, explanation

### **C. MAIN BUILDING WORKS / SOLAR FARM / BESS, ENERGY HUB**

#### **3. SOLAR PV FARM**

- 3.1 PV modules (REC) 470W
- 3.2 SMA PV String Inverters 110kWp
- 3.11 Monitoring & Scada
- 3.15 East-West facing ground-mount structure

#### **4. BATTERY ENERGY STORAGE SYSTEM**

- 4.1 Tesvolt Battery storage
- 4.2 SMA Off-grid Battery Inverter

#### **5. ENERGY HUB**

- 5.3 Galvanised roof structure above containers
- 5.4 FRP molded grating, walkway
- 5.5 Rainwater tanks
- 5.6 Office, store
- 5.8 Eco toilet
- 5.9 Aircon
- Site plan



### 3.1 SOLAR PV MODULE SELECTION

#### REC ALPHA PURE RX 470W (cyclone rated cat. D)

25 years product warranty

25 years power warranty

Temperature coefficient **(-0.24%/C)**

Ultra-low degradation, longer warranty, higher output

Year 0-1 degradation 2%

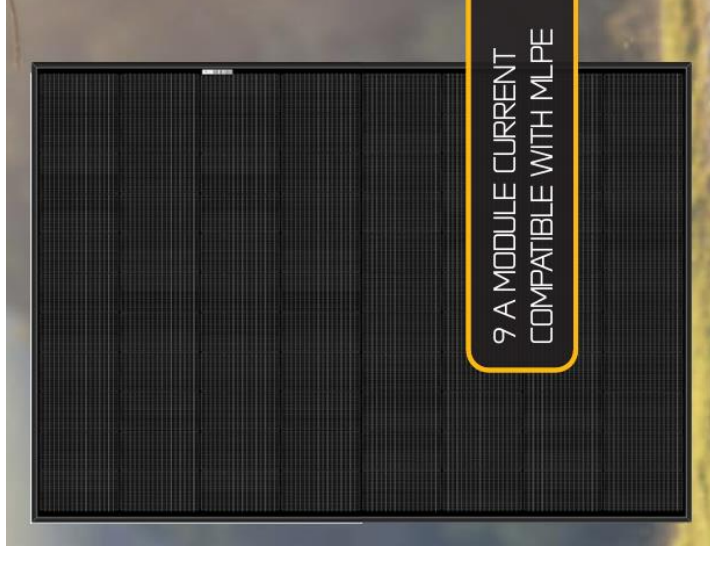
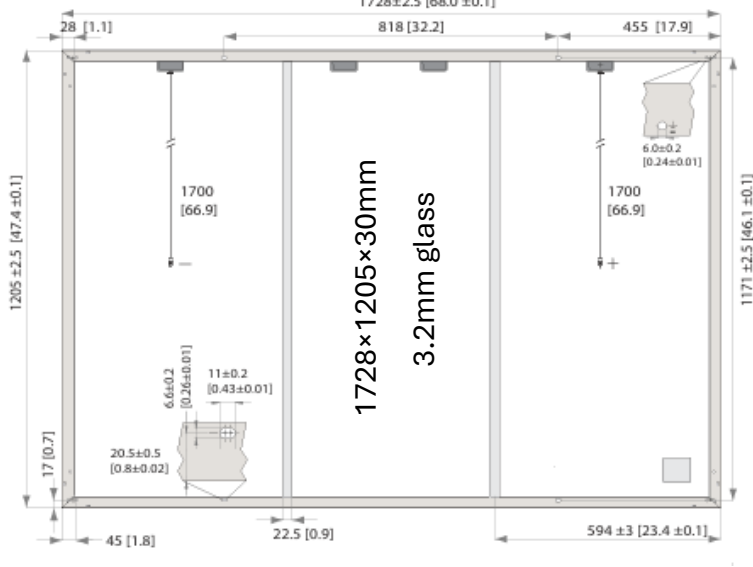
Year 1-25 annual degradation 0.25%

Year 25 guaranteed power **92%** (power warranty)

Maximum Test Load / Front **+8000 Pa** (816 Kg/m<sup>2</sup>) (6 Point Mounting)

Maximum Test Load / Rear **-6000 Pa** (612 Kg/m<sup>2</sup>) (6 Point Mounting)

Cradle to cradle, modern slavery free



**Pmax: 470W**  
REC ALPHA® PURE-RX

### 3. SOLAR PV FARM

#### 3.1 Solar PV module

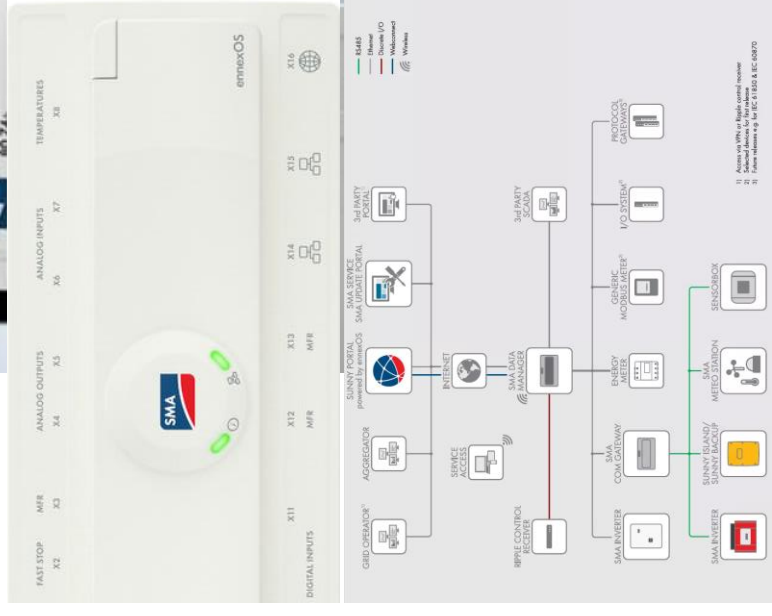
### 3.2 SMA PV String Inverters 110kWp Sunny Tripower CORE2



### 3. SOLAR PV FARM 3.2 SMA PV String Inverters 110kWp

### 3.11 SMA Monitoring

#### Data manager M

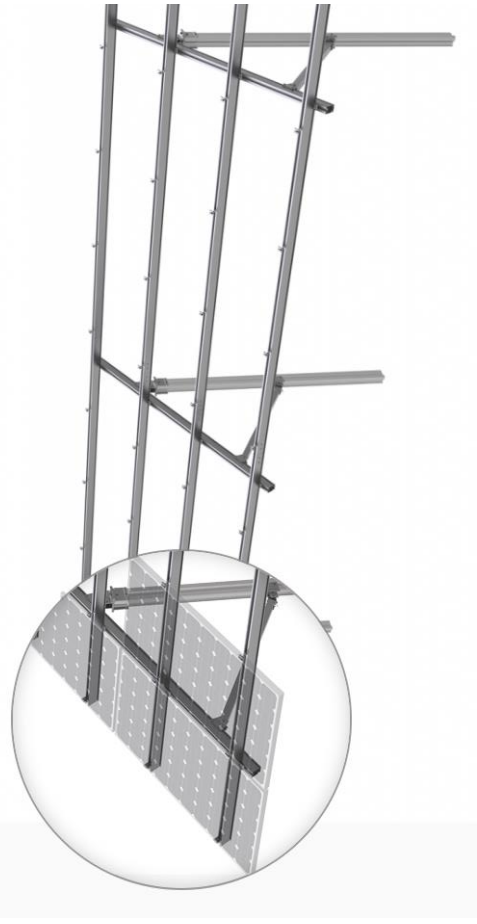
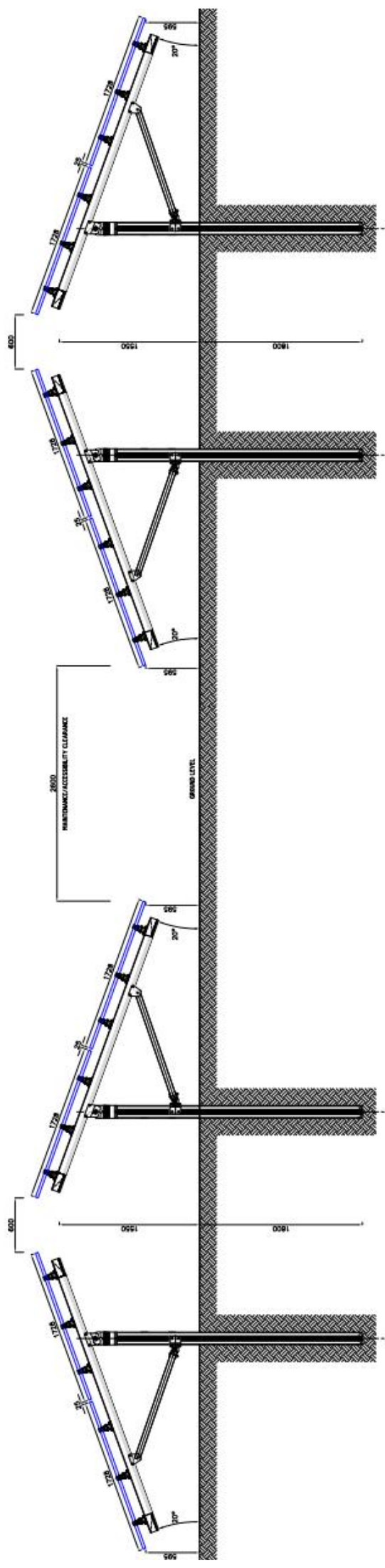


### 3. SOLAR PV FARM

#### 3.11 SMA Monitoring & Scada

### 3.15 PV-ezRack®/MOUNTING SYSTEM/Ground Series/Fixed Tilt/SolarTerrace™ II-A

#### SolarTerrace™ II-A



No concrete used but driven piles only into the ground 1.80m UG  
(2.8m C post)  
Cyclone rating Cat “D”

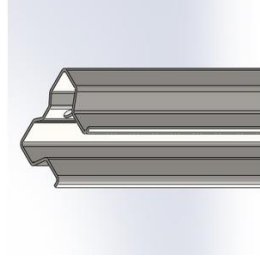
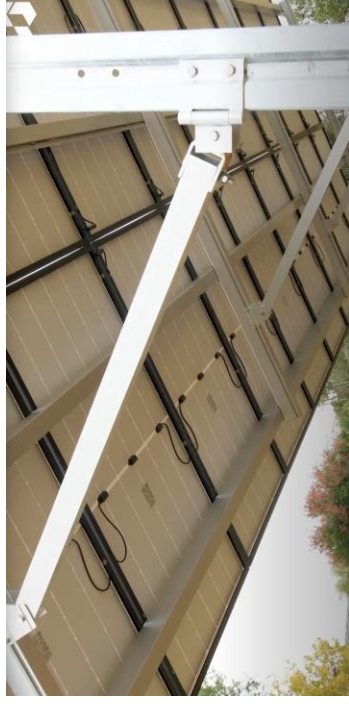
### 3. SOLAR PV FARM

#### 3.15 East-West facing Clenergy mounting structure

## SolarTerrace II-A

Mounting structure / East-West facing

Cyclone rated version: 3 rails, 6 clamps to fix modules (cat D)



Single leg, Pile-driven into ground (Early Works)

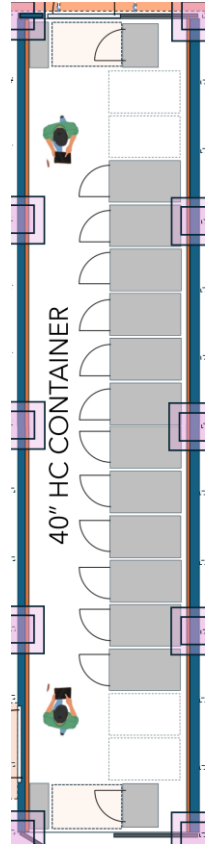
## 3. SOLAR PV FARM 3.15 East-West facing Clenergy mounting structure

### 4.1 Modular Energy Storage

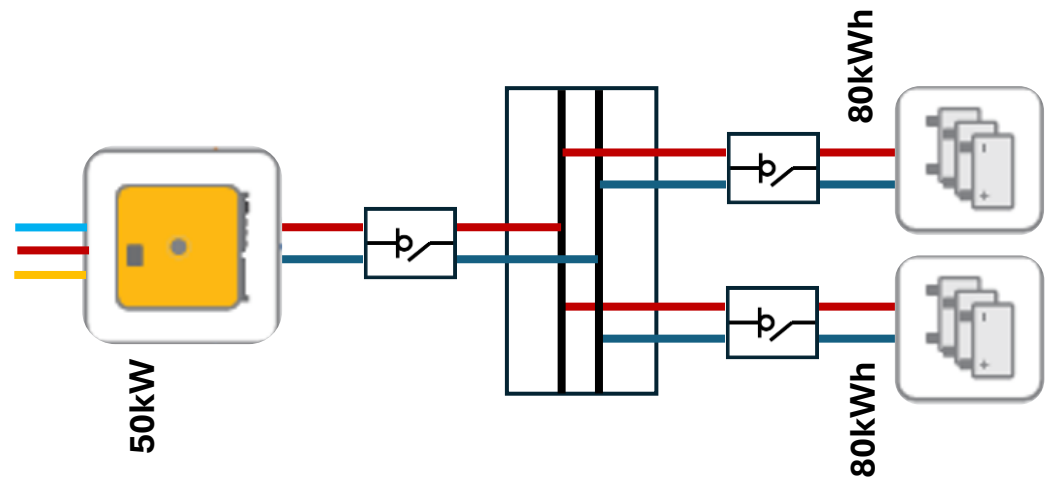
**TESVOLT**  
THE ENERGY STORAGE EXPERTS



Tesvolt HV 80E (2x80kWh)



3-phase 415V



SMA Sunny Island X50



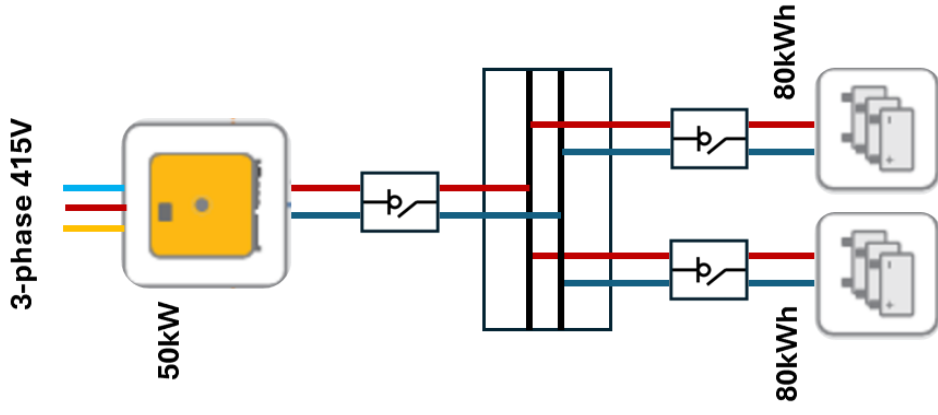
Lithium SDI Battery  
10x8kWh=80kWh  
per cabinet



## 4. BATTERY ENERGY STORAGE SYSTEM

### 4.1 Battery storage

## 4.2 Battery inverter

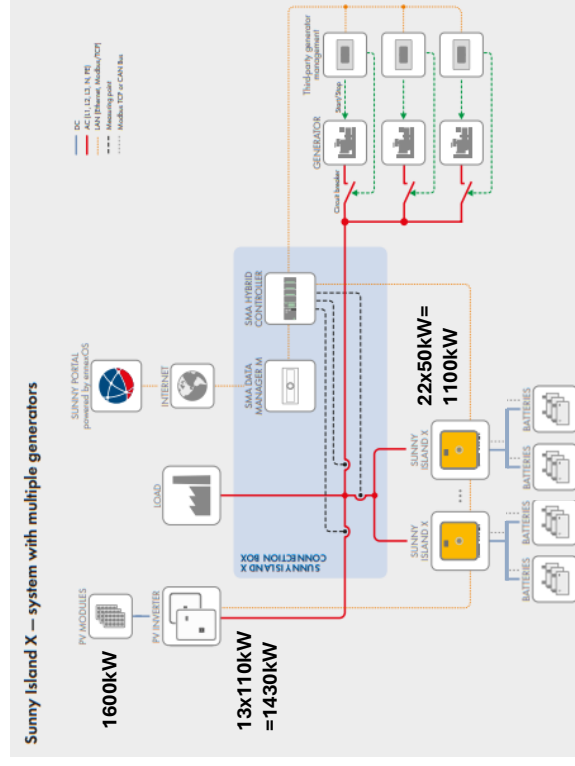


## Discover the new SMA Commercial Off-Grid Solution Technical data of Sunny Island X in a nutshell



Input (Battery)	
Battery DC voltage range	200 V bis 980 V
Max. usable DC current	1.50 A
Battery communication	Modbus TCP or CAN Bus
Output (AC)	
Rated power (at 400 V, 50 Hz)	30kW / 50kW
Rated power (at 480 V, 60 Hz)	40 kW / 60kW
Rated power (at 208 V, 60 Hz)	27 kW
Rated output current / max. output current	75.5 A
Weight	approx. 104 kg (229,3 lb)
Operating temperature range	-25 °C to +60 °C [-13 °F to +140 °F] with derating from 45 °C (still 90% of P <sub>rated</sub> at 60 °C)
Max. efficiency / European Efficiency	98,0 % / 97,6%
Protection class	IP65
Features	
Communication interfaces	Ethernet (2 ports, switched), WLAN (for commissioning), optional LED display
Data protocols	SMA Speedwire, SMA + Sunspec Modbus, SMA Hybrid Controller Modbus communication
EMC irradiation	Class B for AC low-voltage connection

## SMA Sunny Island X50



Technical Data	Sunny Island X 30	Sunny Island X 50
Max. output current	45.6 A per line conductor	75.5 A per line conductor
Overload capability for 30 min / 3 sec	31 kW / 36 kW	52 kW / 60 kW

## 4. BATTERY ENERGY STORAGE SYSTEM 4.2 Battery inverter

# Discover the SMA Commercial Off-Grid solution

## Revolutionary and future-proof Off-grid inverter technology with 20 years life-time design



The future-proof solution for large commercial PV-installations

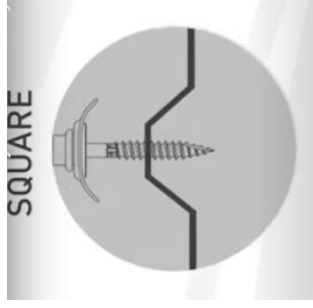
### Sunny Island X:

- ✓ **Integrated System Manager:** Energy Management and Monitoring in On-Grid systems up to 10 devices without additional SMA Data Manager M
- ✓ **Wide temperature range:** No derating below 45°C and still more then 90% of nominal power at 60°C ambient temperature
- ✓ **Compact design and high efficiency:** Transformerless 3-phase topology with 98% efficiency and a high power-density of 50 kW at 104 kg
- ✓ **Reliable load supply:** Different single-phase and asymmetrical loads in grid-forming mode thanks to patented power electronics
- ✓ **Broad battery connectivity:** BMS communication via Modbus TCP & CAN-Bus & integrated DC-DC-converter with wide voltage range for integration of 3rd party batteries

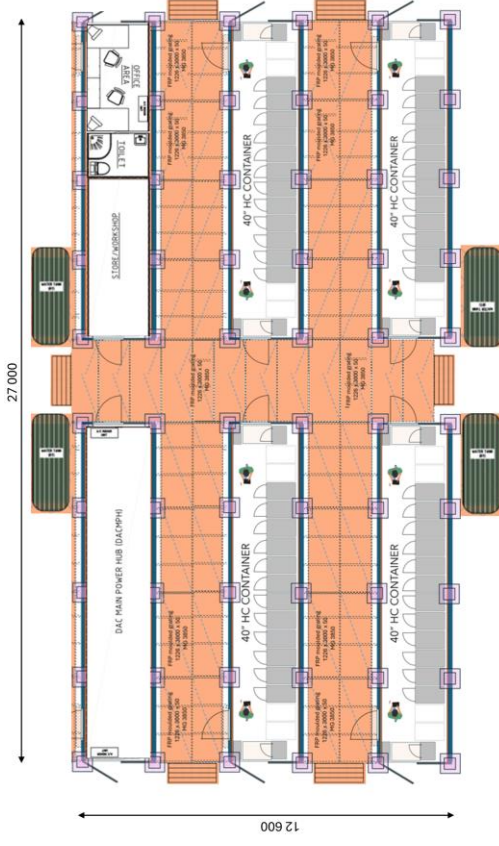
## 4. BATTERY ENERGY STORAGE SYSTEM (BESS)

### 4.2 Off-grid Battery Inverter

### 5.3 Roof structure



Metal Tek Cyclonic Fasteners



- 28mx14m roof area / 4 gutters / 2° slope
- Cyclone rated roof
- All inverters are mounted on the container walls

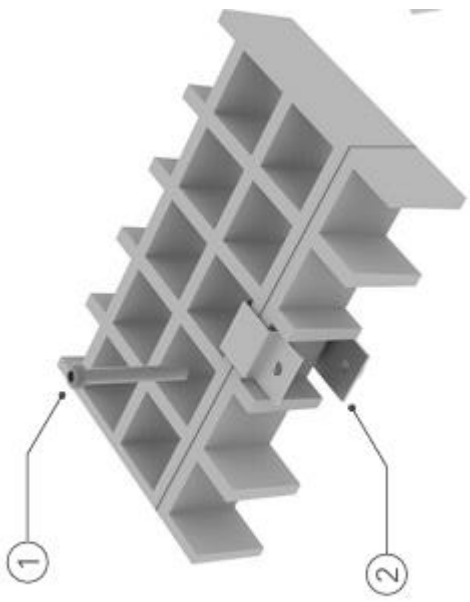
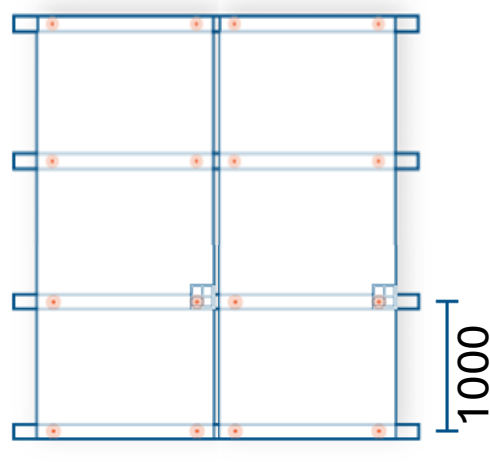


### 5. ENERGY HUB

#### 5.3 Galvanised roof structure above containers

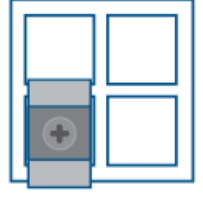
## 5.4 Service walkways

Typical Joist Layout | 1220  
10-12 Fixings per standard sheet

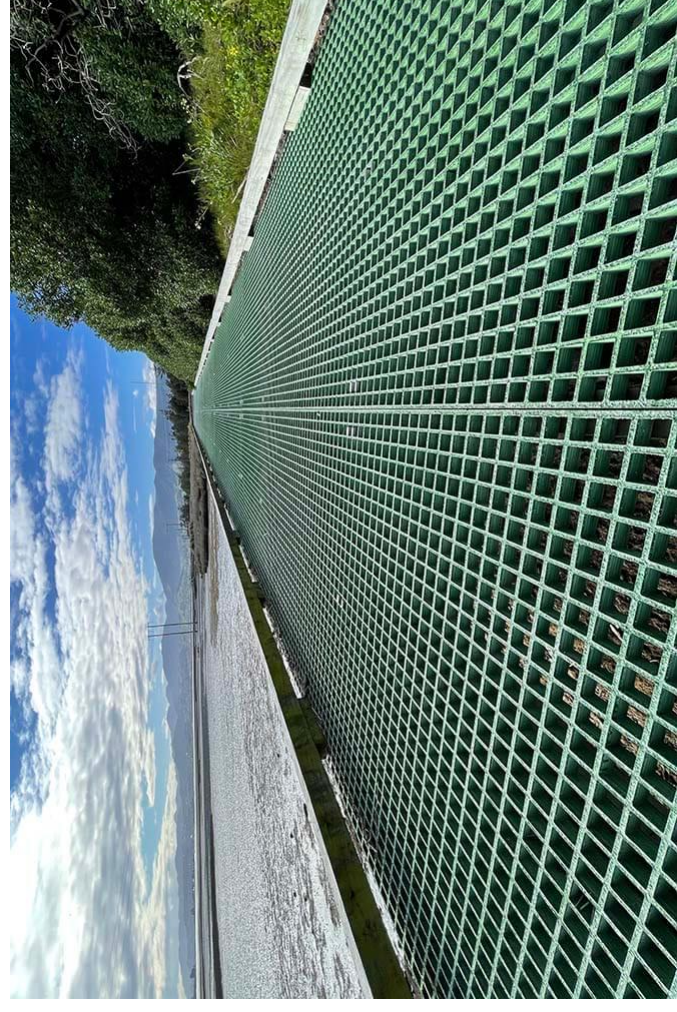


### Safety and Quality Above the Standard

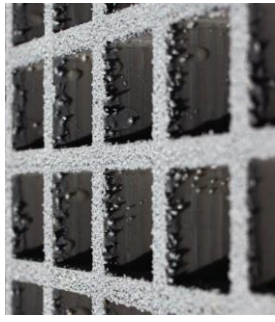
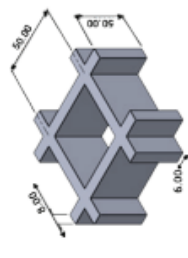
- VOC-Free Pigment
- Fire Rating: ISO 0239:1:2010, Load Rating: AS/NZS.1170
- Anti-Slip Rating: AS/NZS.4586:2004, Chemically Inactive



**FRP regular mesh grating** is one of our most versatile grating products, suiting just about any flooring application. With a 31-45 mm aperture, it is popular in industrial environments for stairs, walkways, catwalks, and platforms. It is durable, easy to install, low maintenance, and highly resistant to slips and corrosion.



### FM-50x50x50



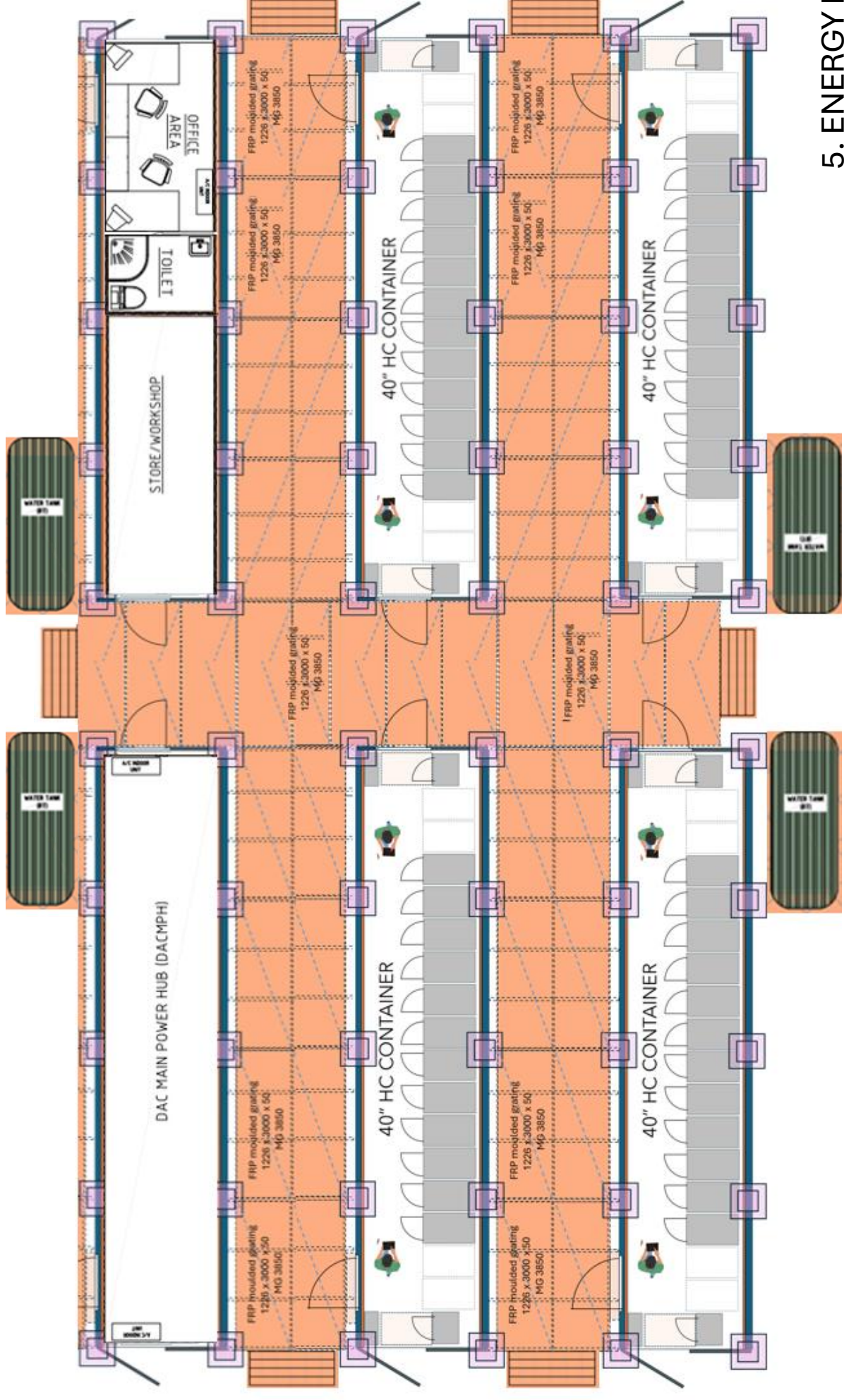
FRP molded grating  
1220 x 3000 x 50  
44pcs.  
FM 5050  
Grass Green RAL 6010

Info: Terragrate FRP  
Moulded - 50x50x50  
Price: \$645.00+GST  
Dimension: 3660x1220  
Made in AU



## 5. ENERGY HUB

### 5.4 FRP molded grating, walkway



### 5. ENERGY HUB WORKS

#### 5.4 FRP molded grating, walkway



### 10,000 Litre Aquaplate Steel Slimline Tank

3300 L x 1500 W x 2320 H / 4 units



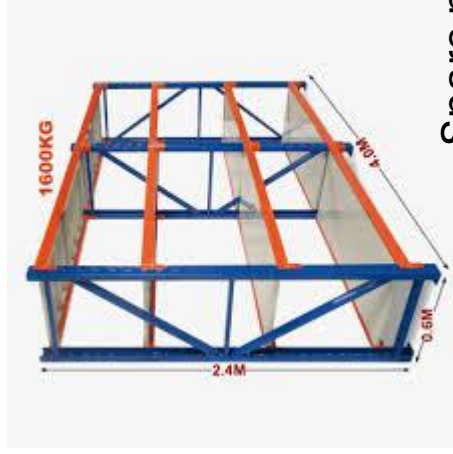
**Harvest  
Rainwater**

## 5. ENERGY HUB WORKS

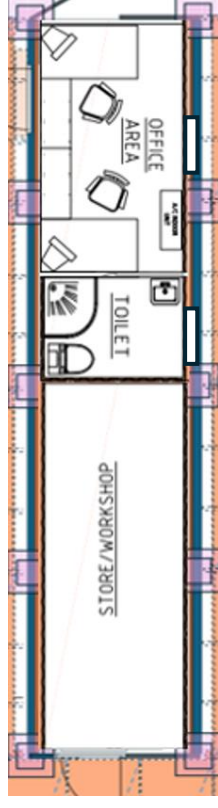
### 5.5 Rainwater tanks



Office, O&M, monitoring



Spare parts store

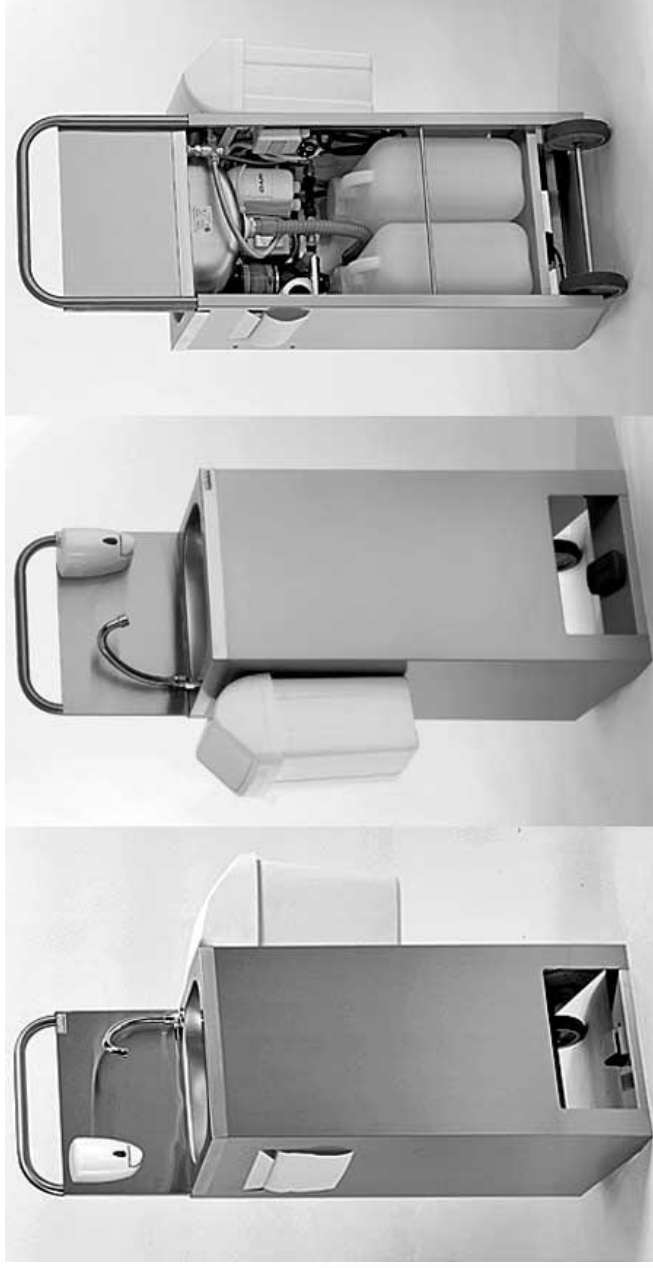


All-in-One Computer

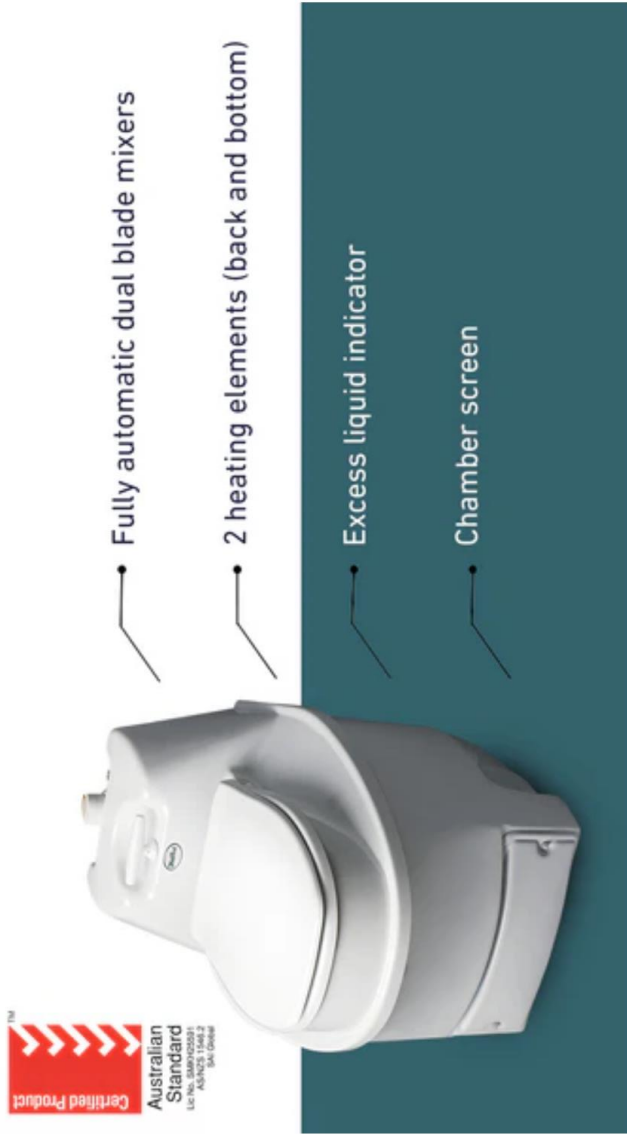


## 5. ENERGY HUB WORKS

### 5.6 Office, store



Integrated electric water heater, for instant hot water (230 V).



EcoLet 25a Fully Automatic Waterless Composting Toilet



**Harvest  
Rainwater**

**5. ENERGY HUB WORKS**  
**5.8 Eco toilet**

Example: Indoor unit suspended from HC container ceiling

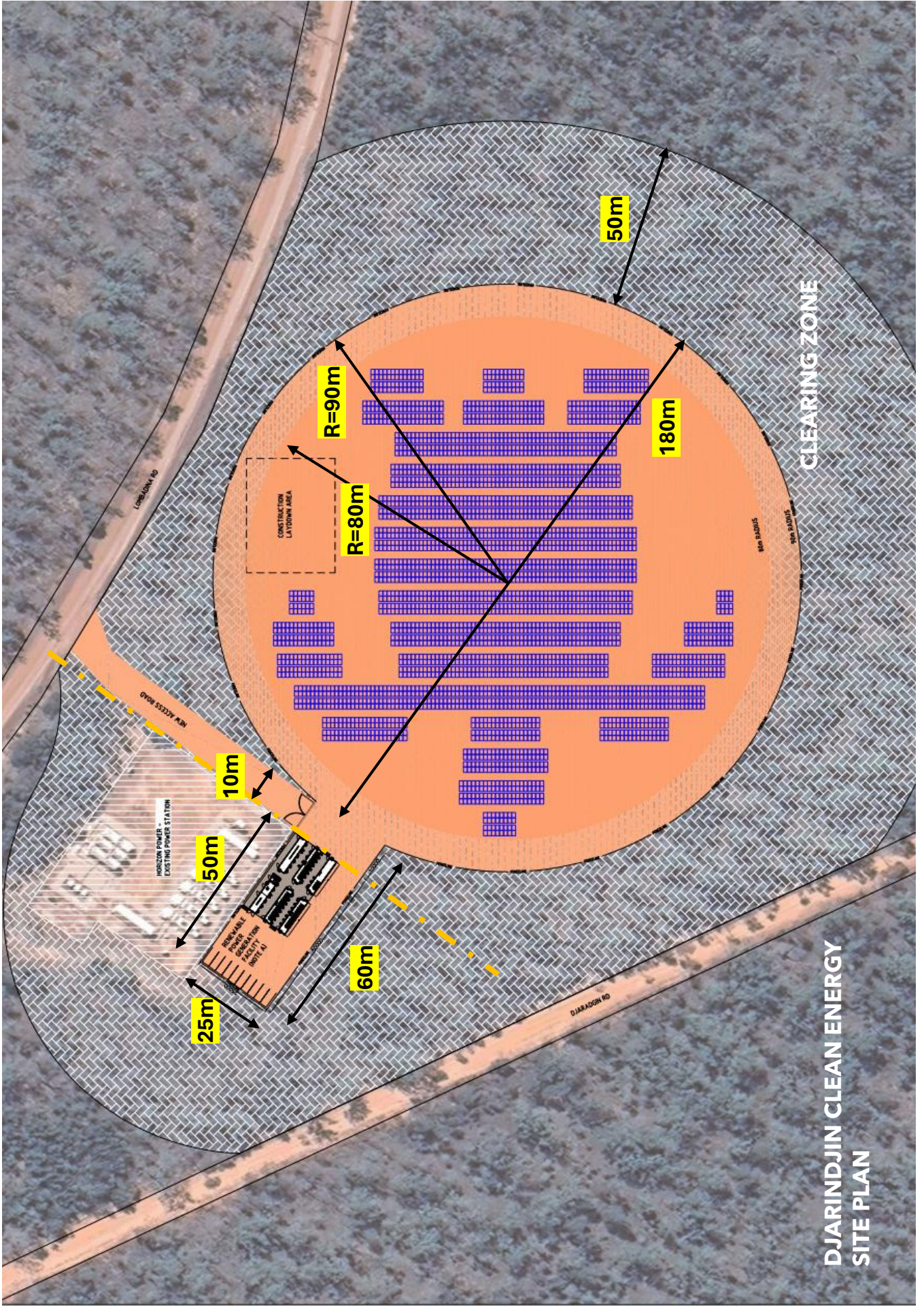


Outdoor unit



## 5. ENERGY HUB WORKS

### 5.9 Aircon



DJARRINDJIN CLEAN ENERGY  
SITE PLAN



# Appendix D: Bushfire Management Plan



**WESTERN**  
**ENVIRONMENTAL**

## **Bushfire Management Plan**

---

Development Application:  
Djarindjin-Aalga Goorlil Solar Farm

**Western Environmental Approvals Pty Ltd**

**Western Environmental Pty Ltd**

(08) 6162 8980  
PO Box 437, Leederville, WA 6903  
enquiries@westenv.com.au  
[westenv.com.au](http://westenv.com.au)



WESTERN  
ENVIRONMENTAL

# Bushfire Management Plan

Development Application:  
Djarindjin-Aalga Goorlil Solar Farm

**Report No:**

A25.094-RPT-BMP-REN\_0\_FINAL

**Issue Date:**

12-Nov-2025

**Status**

FINAL

**Prepared for:**

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Shop 9, 20 Sharpe Avenue  
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## Internal Review

Author	Reviewed by	Approved by
		
<b>Bridie Farrar</b> Bushfire Consultant	<b>Beau Eaton</b> Senior Bushfire Consultant	<b>Daniel Panickar</b> Senior Principal Level 3 Accredited BPAD Practitioner - 37802
12-Nov-2025	12-Nov-2025	12-Nov-2025

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Copies	Document ID / Version	Date	Received by
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1	A25.094-RPT-BMP-REN_O_FINAL	12-Nov-2025	Tom Willday

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The bushfire management measures and risk treatments proposed in this document do not guarantee that buildings or infrastructure will not be damaged in a bushfire, nor that there will be no injuries or fatalities either on the site or offsite while evacuating. Primarily, this is due to the unpredictable nature and behaviour of fire and fire weather conditions. In addition, implementation of the required bushfire management measures (including construction standards, maintenance etc.) and any other required or recommended measures, will depend upon, among other things, the ongoing actions of landowners and/or operators over which WEPL has no control.

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- Appendix B: Classified Vegetation Photos
- Appendix C: Method 2 BAL Calculations
- Appendix D: Asset Protection Zone Technical Requirements (WAPC, 2024a)
- Appendix E: Vehicular Access Technical Requirements (WAPC, 2024b)

# 1. Introduction

## 1.1 Proposal Details

RFF Pty Ltd (RFF), on behalf of Djarindjin-Aalga Goorlil Aboriginal Corporation (DAC), is seeking to progress a Development Application (DA) for the Djarindjin-Aalga Goorlil Solar Farm, Lombadina Road, Djarindjin (hereafter referred to as the subject site, Figure 1). The proposed development will result in an intensification of land use and involves the development of approximately 3,408 solar panels that will be connected to a nearby Renewable Power Generation Facility, which includes four Battery Energy Storage System (BESS) pods, one distribution pod and an office/workshop (Figure 2).

The subject site is within a designated bushfire prone area (Area 2) as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES, 2024; Figure 3), which typically triggers bushfire planning requirements under *State Planning Policy 3.7 Bushfire* (SPP 3.7; WAPC, 2024a) and reporting to accompany submission of the DA in accordance with the associated *Planning for Bushfire Guidelines* (the Guidelines; WAPC, 2024b).

Renewable energy facilities are not captured under this version of SPP 3.7, however an assessment of the proposed facility against Bushfire Protection Criteria 7 (Development - Commercial and Industrial) of the Guidelines has been undertaken in order to appropriately address and mitigate bushfire risk associated with the project. Western Environmental Approvals Pty Ltd (WEPL) was commissioned to prepare a Bushfire Management Plan (BMP) to support the DA. This BMP has been prepared by Bushfire Consultant Bridie Farrar, Senior Bushfire Consultant Beau Eaton and Senior Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802).

### 1.1.1 Site context

The subject site is located within Shire of Broome and is zoned Settlement under the Shire of Broome Local Planning Scheme No. 7. An amended to the Djarindjin Layout Plan No. 3 has also been made, reclassifying the site from Open Space to Public Utility.

The subject site and assessment area contain a mixture of unmanaged, classifiable vegetation as well as cleared areas. The subject site is bound by Lombadina Road to the north, unmanaged vegetation to the east, Djaradgin Road to the south and Djarindjin townsite to the west.

## 1.2 Purpose and Application of the BMP

This BMP has been prepared in accordance with SPP 3.7 and the Guidelines to support the assessment of the DA for the subject site submitted to the Shire of Broome.

In addition, this BMP provides strategies and guidance to reduce the level of bushfire risk exposure for the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

Renewable energy facilities are considered vulnerable to bushfire and may also pose a fire risk due to the associated hazards outlined in Table 1. Hazards specific to this project will be identified through an appropriate risk management process. Given the absence of a statewide bushfire framework for assessing renewable energy facilities in Western Australia at the time of preparation of this BMP, an assessment of the proposed solar arrays and BESS unit against the Country Fire Authority's (CFA) *Design Guidelines and Model Requirements for Renewable Energy Facilities Version 4* (the CFA Guidelines; State of Victoria, 2023) adapted to Western Australia, has been undertaken to guide the detailed design of Djarindjin-Aalga Goorlil Solar Farm (Appendix A).

**Table 1: Fire Hazards Associated with Renewable Energy Facilities (State of Victoria, 2023)**

Facility Type	Potential Fire Hazards
Solar Energy Facilities	<ul style="list-style-type: none"> <li>• Electrical hazards, such as panel/inverter electrical faults; power surges; lightning strikes; water ingress; retained DC electricity in solar panels after shut-down/isolation.</li> <li>• Potential fire spread and limited emergency response due to proximity of panel banks to each other, on-site infrastructure and vegetation (including screening vegetation).</li> </ul>
Battery Energy Storage Systems (BESS)	<ul style="list-style-type: none"> <li>• Electrical hazards, such as battery faults; overcharging; rapid discharge; loss of remote monitoring systems; internal short circuits; overheating; water ingress; lightning strike (leading to thermal events/runaway).</li> <li>• Chemical hazards, such as the inherent hazards of the stored dangerous goods; spills and leaks of transformer oil/diesel, refrigerant gas/coolant; chemical reactions.</li> <li>• Explosions, from ignition of venting gases.</li> <li>• Potential fire spread due to proximity of batteries (and containers/enclosures) to each other, on-site infrastructure and vegetation (including screening vegetation).</li> <li>• Mechanical damage to battery containers/enclosures due to vehicular impact.</li> <li>• Landscape hazards, such as bushfire/grassfire ignition from fire within the facility, or external ignition of site infrastructure from embers, radiant heat and flame contact.</li> </ul>

## 2. Environmental Considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

WEPL has undertaken a desktop assessment over the site to identify if any environmental values may be impacted by the bushfire mitigation measures proposed within this BMP. This assessment identified that values within the following publicly available datasets intersect with the subject site (Figure 2):

- Native Vegetation Extent (DPIRD-005).
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046).

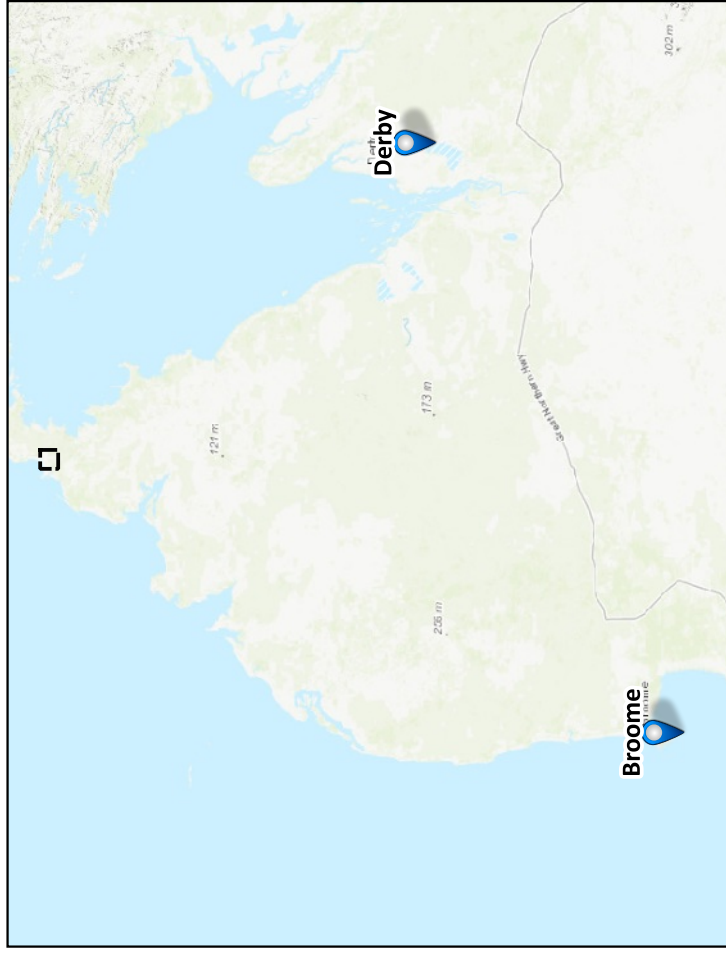
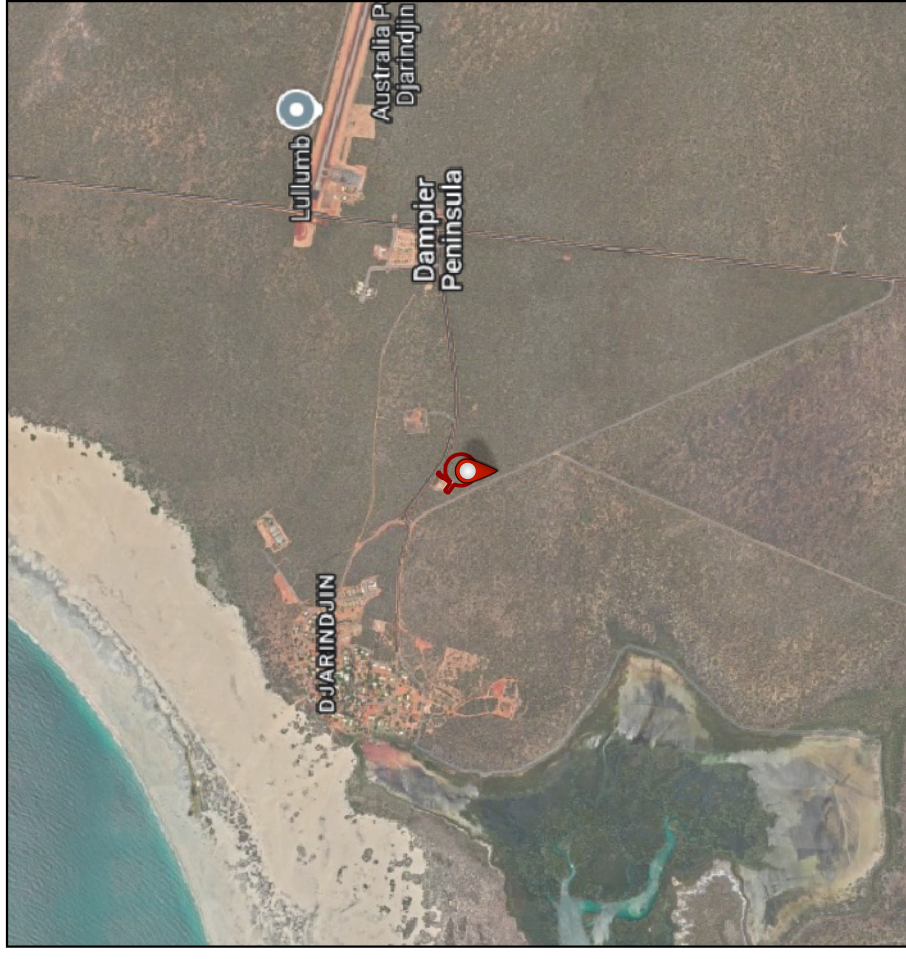
WEPL was also engaged to provide environmental consulting services to support the project. The advice provided considers the impacts the bushfire mitigation measures may have on the aforementioned environmental values.

### 2.1 Native Vegetation - Modification and Clearing




The bushfire mitigation measures prescribed in this BMP are proposed to impact native vegetation through the clearing of Asset Protection Zones (APZs) and creation of additional access tracks. WEPL prepared a Native Vegetation Clearing Permit for the project which considers all clearing of native vegetation required for the development to proceed, including that required to facilitate the implementation of the bushfire mitigation measures prescribed in this BMP (WEPL, 2025).

### 2.2 Revegetation/Landscape Plans

No revegetation is proposed within the subject site and landscaping will be maintained in a low-threat state.



**Figure 1: Site Overview**

- Legend**
-  Subject Site
  -  Buffer 100m
  -  Buffer 150m

PROJECT/REPORT NAME Bushfire Management Plan Djarindjin Lombadina Road, Djarindjin		CLIENT RFF	VERSION 0
PROJECT NUMBER A25.094		DATE 12/11/2025	
DRAWN BY / REVIEWED BY SM/BF			
SCALE 1:2,500	SHEET SIZE A3 COLOUR		
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 51			
DATA SOURCE LANDGATE AERIAL IMAGERY			



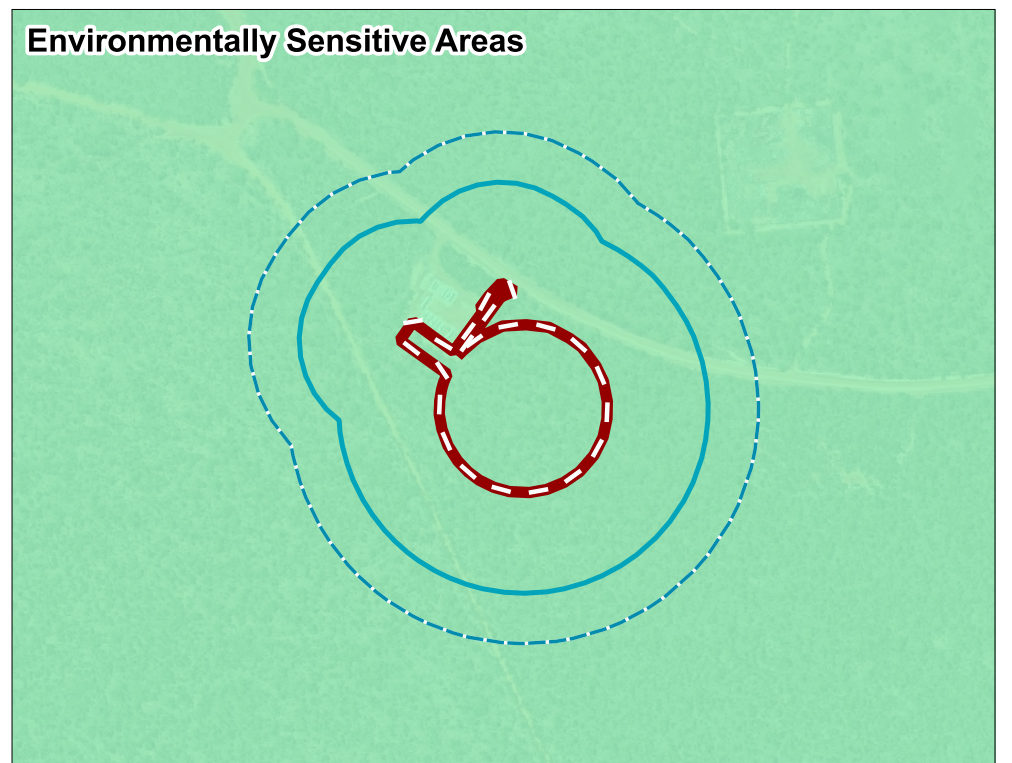
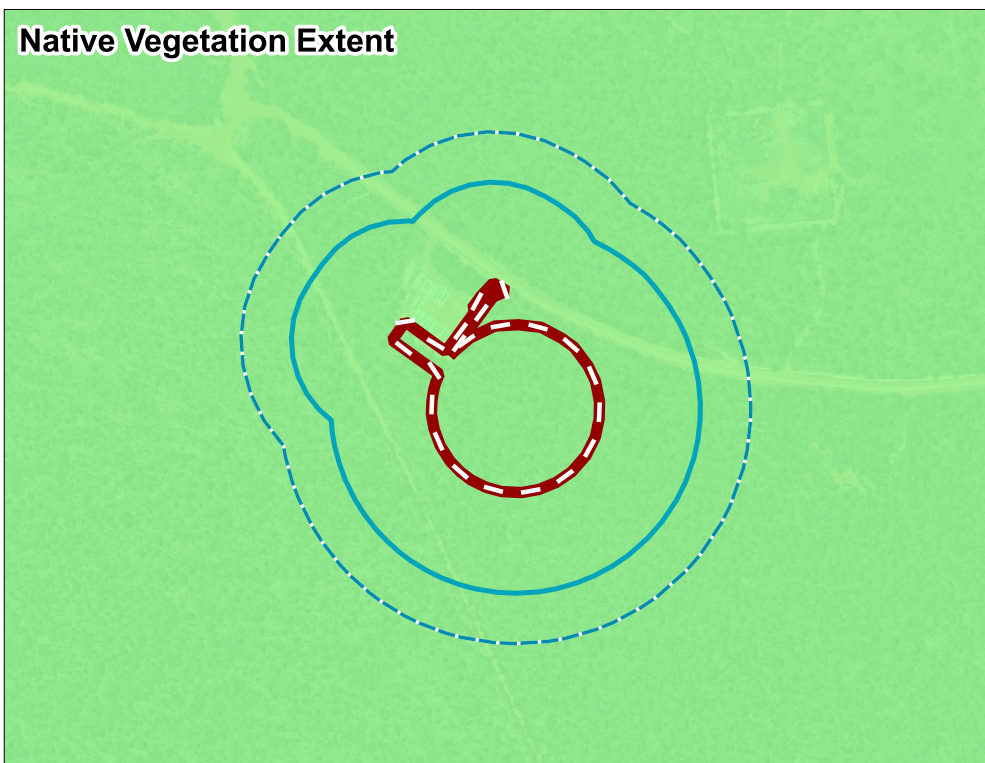
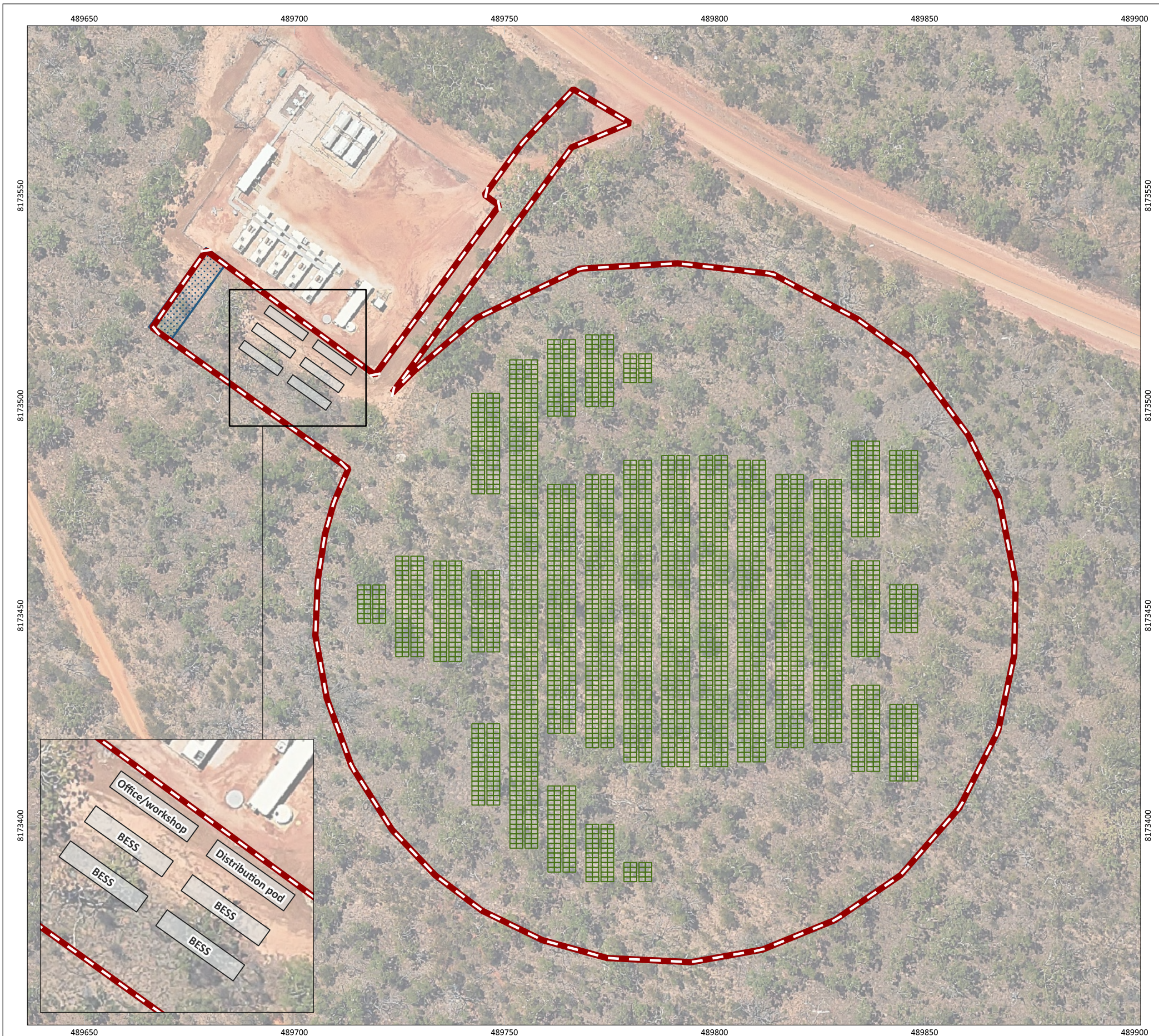


Figure 2: Site Plan

		<b>PROJECT/REPORT NAME</b> Bushfire Management Plan Djarindjin Lombadina Road, Djarindjin		<b>Legend</b> Subject Site Buffer 100m Buffer 150m Solar panel Renewable power generation facility Carpark	Native Vegetation Extent (DPIRD-005) Environmentally Sensitive Areas (DWER-046)	 <b>WESTERN ENVIRONMENTAL</b> <small>Western Environmental Pty Ltd          08 6244 2310   enquiries@westernv.com.au          Level 3/25 Prowse St, West Perth WA 6005          westernv.com.au</small>
<b>SCALE</b> 1:1,000	<b>SHEET SIZE</b> A3 COLOUR	<b>CLIENT</b> RFF	<b>VERSION</b> 0			
<b>COORDINATE REFERENCE SYSTEM</b> GDA2020 / MGA zone 51		<b>PROJECT NUMBER</b> A25.094	<b>DATE</b> 12/11/2025			
<b>DATA SOURCE</b> LANDGATE AERIAL IMAGERY		<b>DRAWN BY / REVIEWED BY</b> SM/BF				

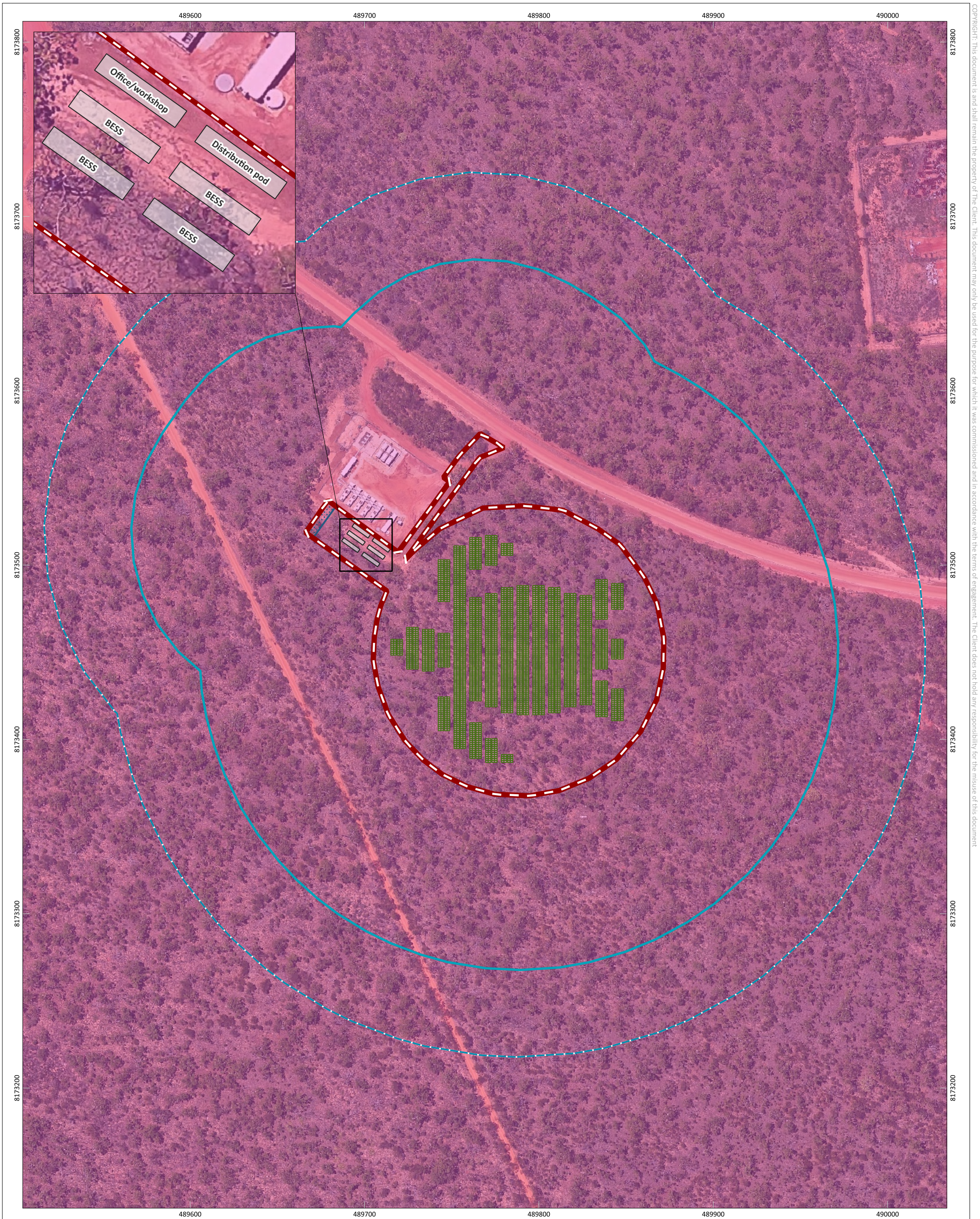


Figure 3: Bushfire Prone Areas

		PROJECT/REPORT NAME Bushfire Management Plan Djarindjin Lombadina Road, Djarindjin		<b>Legend</b> Subject Site Buffer 100m Buffer 150m Solar panel Renewable power generation facility Carpark		<b>Bush Fire Prone Area Planning (OBRM-023)</b> Bushfire Prone Area 2		<p>Western Environmental Pty Ltd          08 6244 2310   enquiries@western.com.au          Level 3/25 Prowse St, West Perth WA 6005          western.com.au</p>
SCALE 1:2,000	SHEET SIZE A3 COLOUR	CLIENT RFF	PROJECT NUMBER A25.094	VERSION 0				
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 51		DRAWN BY / REVIEWED BY SM/BF	DATE 12/11/2025					
DATA SOURCE LANDGATE AERIAL IMAGERY								

### 3. Bushfire Assessment Results

#### 3.1 Bushfire Assessment Inputs

A bushfire assessment has been undertaken for the proposed development in accordance with the Guidelines. Inputs to this assessment are detailed below.

##### 3.1.1 Fire Danger Index

A blanket Fire Danger Index (FDI) 80 is adopted for Western Australia, as outlined in *Australian Standard AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (SA, 2018).

##### 3.1.2 Pre-Development Vegetation Classification and Slope under Vegetation

Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) were assessed on 3/09/2025 in accordance with the Guidelines and AS 3959: 2018.

The pre-development classified vegetation and effective slope for the site from each of the identified vegetation plots are identified below in Table 2 and Figure 4.

**Table 2: Pre-Development Classified Vegetation as per AS 3959: 2018**

Plot	Vegetation classification	Effective slope
1	Class A Forest	All upslopes and flat land (0 degrees)
2	Excluded - clause 2.2.3.2 (e)	-

Photographs relating to each area and vegetation type are included in Appendix B.

##### 3.1.3 Post-Development Assumptions

The entirety of the subject site is proposed to be cleared to facilitate the solar arrays, hardstands, internal access roads, buildings and carparks. Areas external to the subject site will also be cleared/modified to accommodate the separation distance required from classified vegetation so that the BESS and distribution pods are in an area subject to a radiant heat flux not exceeding 10 kW/m<sup>2</sup>. The assumed post-development vegetation classifications and effective slopes are presented in Figure 5.

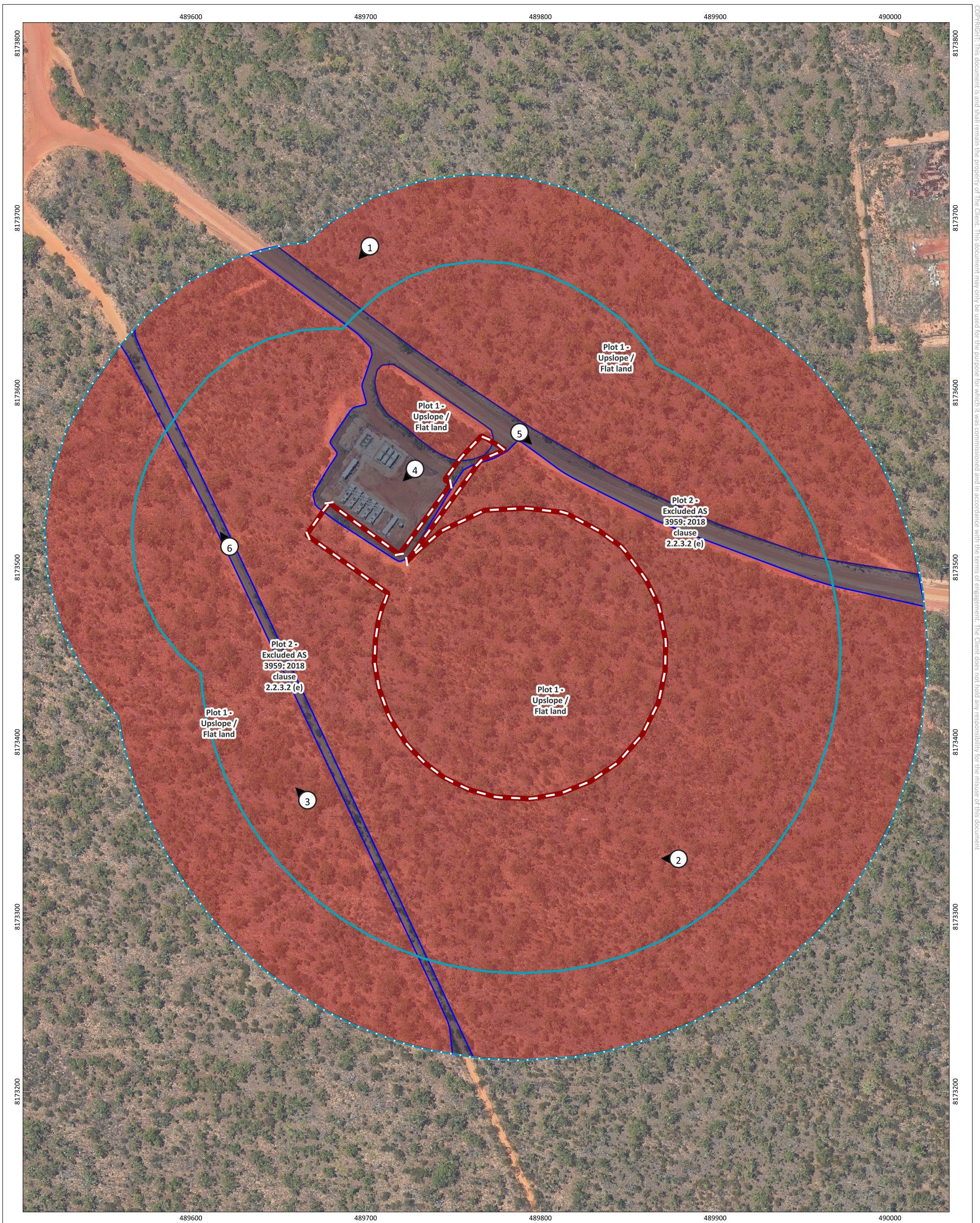


Figure 4: Pre-Development Vegetation Classification

	PROJECT/REPORT NAME Bushfire Management Plan Djarindjin Lombadina Road, Djarindjin		<b>Legend</b> Subject Site Buffer 100m Buffer 150m Photos	<b>Vegetation Classification</b> Class A - Forest Excluded AS 3959: 2018 2.2.3.2 (e)	 <b>WESTERN ENVIRONMENTAL</b> <small>Western Environmental Pty Ltd          08 6244 2310   enquiries@westenv.com.au          Level 3/25 Prowse St, West Perth WA 6005          westenv.com.au</small>
	SCALE 1:2,000	SHEET SIZE A3 COLOUR			
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 51		PROJECT NUMBER A25.094	VERSION 0		
DATA SOURCE LANDGATE AERIAL IMAGERY		DRAWN BY / REVIEWED BY SM/BF	DATE 12/11/2025		

## 3.2 Bushfire Assessment Outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959: 2018 and the bushfire assessment inputs in Section 3.1.

### 3.2.1 Method 1 BAL Assessment

All land located within 100 m of the classified vegetation depicted in Figure 5 is considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959: 2018.

A Method 1 BAL assessment (as outlined in AS 3959: 2018) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating.
- Vegetation class.
- Slope under classified vegetation.
- Distance between proposed subdivision area and the classified vegetation.

Table 3 and Figure 5 contain the outputs (in the form of BAL contours) from the Method 1 BAL assessment for all areas of classified vegetation within the assessment area. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed assets.

**Table 3: Method 1 BAL Calculation (BAL Contours).**

Plot	Vegetation classification	Effective slope	Separation distances required (m)				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class A Forest	All upslopes and flat land (0 degrees)	16	16 - 21	21 - 31	31 - 42	42 - 100
2	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW				

### 3.2.2 Method 2 BAL Assessment

The Guidelines mandates that future assets be sited within areas which are subject to a radiant heat flux  $\leq$ BAL-29 where possible to do so. In lieu of a Western Australian bushfire framework for assessing renewable energy facilities, the CFA Guidelines offer further guidance on appropriate siting for such facilities.

The CFA Guidelines state that *separation* [of classified vegetation and renewable energy infrastructure] *must be at least the distance where radiant heat flux (output) from the vegetation does not create the potential for ignition of on-site infrastructure*. A 10 kW/m<sup>2</sup> radiant heat flux threshold is widely adopted as best practice

to ensure sufficient separation distance is established. This threshold has been applied to all BESS and distribution pods given the associated fire hazards they may pose.

A Method 2 BAL assessment (as outlined in Appendix B of AS 3959: 2018) has been completed to determine the minimum distance between the high-risk assets (BESS and distribution pods) and classified vegetation to ensure the radiant heat impact does not exceed 10 kW/m<sup>2</sup>.

Inputs to the Method 2 BAL assessment are summarised below and provided in full in Appendix C.

- Relevant Fire Danger Index: FDI 80 (not modified from standard inputs).
- Vegetation classification and slope under vegetation: Refer to Table 2.
- Slope between site and classified vegetation: Flat (0 degrees).
- Flame length: Automatically calculated (refer to Appendix C).
- Flame width: 100 m (not modified from standard inputs).
- Elevation of receiver: Default (peak) value used.
- Flame emissivity: 0.95 (not modified from standard inputs).
- Flame temperature: 1090 K (not modified from standard inputs).

Table 4 contains the separation distances calculated using the above inputs in accordance with Appendix B of AS 3959: 2018. The minimum setbacks from areas of classified vegetation to ensure the radiant heat impact does not exceed 10 kW/m<sup>2</sup> is shown on Figure 5. These setbacks apply to the BESS and distribution pods only. It has also conservatively been applied to the office/workshop given its close proximity to the BESS and distribution pods.

This Method 2 calculation has not been undertaken to demonstrate compliance with the bushfire protection criteria.

**Table 4: Method 2 Radiant Heat Flux and Setback Distances Calculation**

Plot	Vegetation classification	Effective slope <sup>1</sup>	Separation distances required (m) 10 kW/m <sup>2</sup> @ 1090 K
1	Class A Forest	0	>49
2	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW

<sup>1</sup> The effective slope has been rounded up to the maximum value of each slope band in Table 2.5 of AS 3959: 2018.

### 3.2.3 BAL Assessment Summary

Following the establishment of the APZs, the proposed switchyard and inverters will be subject to a radiant heat impact not exceeding 10 kW/m<sup>2</sup> at a flame temperature of 1090 K. The proposed solar arrays will be set back at least 10 m from areas of classified vegetation, resulting in BAL ratings from BAL-LOW to BAL-FZ.

A summary of the BAL ratings for these assets within the subject site is provided in Table 5.

**Table 5: BAL Ratings for Assets Within the Subject Site**

Proposed Building/Asset	Plot Most Affecting BAL Rating	Separation Distance (m)	BAL Rating
BESS Pods	Plot 1	49	BAL-12.5
Distribution Pod	Plot 1	49	BAL-12.5
Office/Workshop	Plot 1	49	BAL-12.5
Solar Arrays	Plot 1	10	BAL-FZ

## 4. Identification of Issues Arising from the BAL Assessment

Post-development, the BESS pods, distribution pod and office/workshop will be subject to BAL-12.5 (Figure 5, Figure 6). Further, these assets have been sited to ensure that the radiant heat flux does not exceed 10 kW/m<sup>2</sup> in the event of a bushfire occurring in the surrounding areas of bushland (Figure 5), in accordance with best practice for BESS units in WA at the time of preparation of this BMP. As described in Section 3.2.2, these calculations have been completed based on a 1090 K flame temperature and are contained within Appendix C.

The BAL-FZ and BAL-40 ratings on the solar panels, however, are considered acceptable given the following:

- There is no trigger for solar arrays to be assessed under SPP 3.7 and the Guidelines.
- *Position Statement: Renewable energy facilities* (the Position Statement; WAPC, 2020) states that only a minimum 10 m separation is required between solar panels and classified vegetation, which has been implemented in the proposed development design and discussed further in Appendix A.
- A minimum 10 m separation distance (which in most instance is much larger, due to the entirety of the subject site being cleared) has been adopted to minimise the amount of native vegetation which is to be cleared to facilitate the proposed development
- The minimum 10 m separation distance requirement is considered appropriate for solar panels given they:
  - are low risk assets.
  - present a reduced risk of bushfire ignition.
  - can readily be replaced if damaged by a bushfire.

A reassessment of BAL ratings, through either a BMP addendum or revised BMP will be undertaken if changes to development design or classified vegetation within the assessment area which require a modified bushfire management response occur.

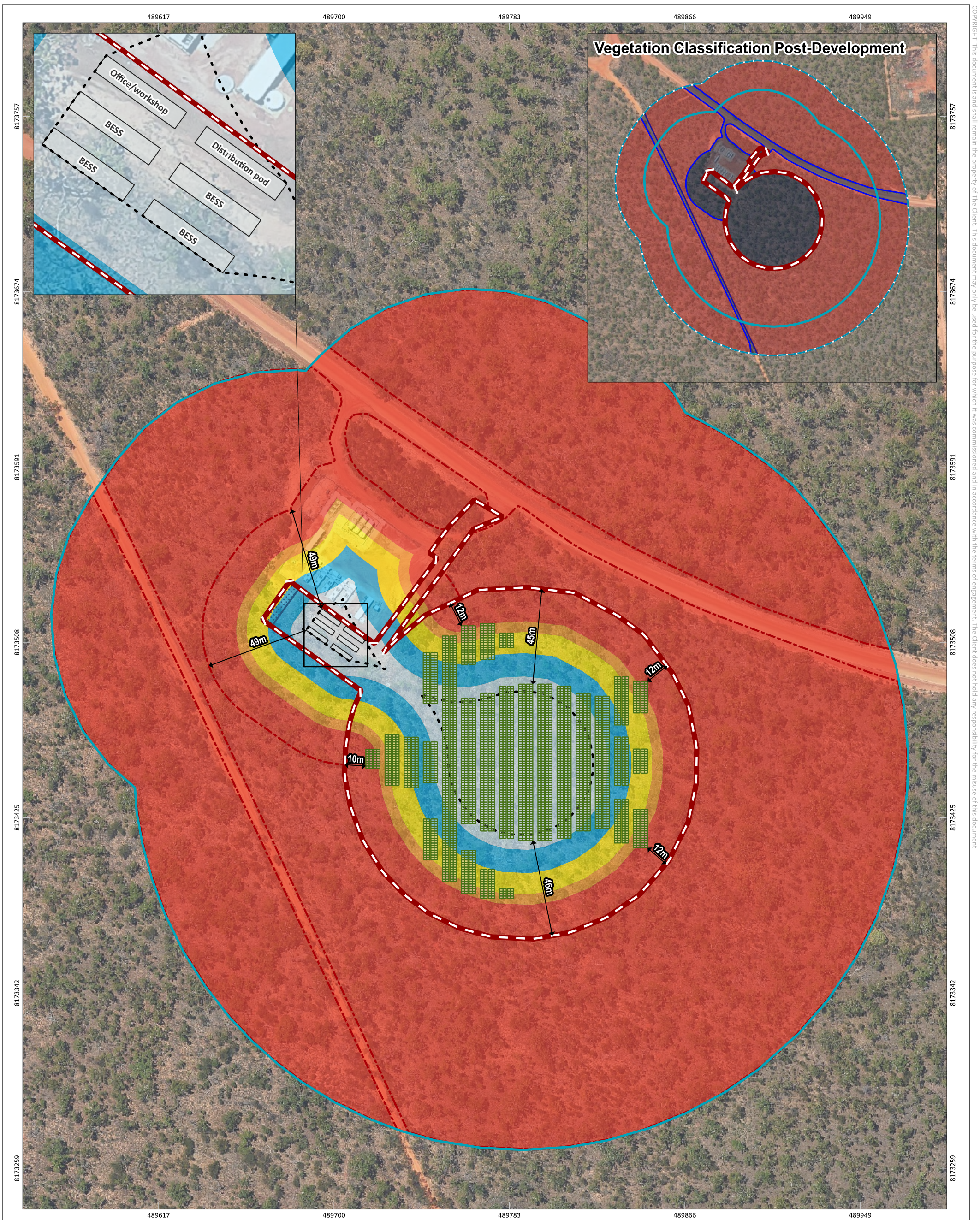


Figure 5: Bushfire Attack Level (BAL) Contours

	PROJECT/REPORT NAME Bushfire Management Plan Djarindjin Lombadina Road, Djarindjin		<b>Legend</b> Subject Site Buffer 100m Bushfire Hazard Interface Solar panel Renewable power generation facility Carpark	--- 10kW/m <sup>2</sup> (1090K) <b>Vegetation Classification</b> Class A - Forest Excluded AS 3959: 2018 2.2.3.2 (e)	<b>Bushfire Attack Level (BAL)</b> BAL-FZ BAL-40 BAL-29 BAL-19 BAL-12.5 BAL-LOW	 <b>WESTERN ENVIRONMENTAL</b> <small>Western Environmental Pty Ltd          08 6244 2310   enquiries@western.com.au          Level 3/25 Prowse St, West Perth WA 6005          western.com.au</small>
	SCALE 1:1,650	SHEET SIZE A3 COLOUR				
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 51		PROJECT NUMBER A25.094	VERSION 0			
DATA SOURCE LANDGATE AERIAL IMAGERY		DRAWN BY / REVIEWED BY SM/BF	DATE 12/11/2025			

## 5. Assessment Against the Bushfire Protection Criteria

### 5.1 Compliance

The proposed development is required to comply with policy measures 7.1 and 7.3 of SPP 3.7 and Bushfire Protection Criteria 7 in the Guidelines.

Table 6 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved through the application of bushfire risk management measures. No Outcomes-based Approach (OA) have been proposed for this development. These management measures are depicted in Figure 6 where relevant.

Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

**Table 6: Assessment Against the Bushfire Protection Criteria 7**

Bushfire Protection Criteria 7	AS	OA	N/A
<b>Element 1: Location</b>			
<b>A1.1 Development location</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Not Applicable - This Element does not apply to commercial and industrial developments.			
<b>Element 2: Siting and design</b>			
<b>A2.1 Siting and design</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Post-development, the BESS pods, distribution pod and office/workshop will be subject to BAL-12.5 (Figure 5, Figure 6). Further, these assets have been sited to ensure that the radiant heat flux does not exceed 10 kW/m<sup>2</sup> in the event of a bushfire surrounding the assets (Figure 5), in accordance with best practice for BESS units in WA at the time of preparation of this BMP. These calculations have been completed based on a 1090 K flame temperature and are contained within Appendix C.

The BAL-FZ and BAL-40 ratings on the solar panels, however, are considered acceptable given the following:

- There is no trigger for solar arrays to be assessed under SPP 3.7 and the Guidelines.
- Position Statement: Renewable energy facilities (the Position Statement; WAPC, 2020) states that only a minimum 10 m separation is required between solar panels and classified vegetation, which has been implemented in the proposed development design and discussed further in Appendix A.
- A minimum 10 m separation distance (which in most instance is much larger, due to the entirety of the subject site being cleared) has been adopted to minimise the amount of native vegetation which is to be cleared to facilitate the proposed development which is discussed further in A2.3.
- The minimum 10 m separation distance requirement is considered appropriate for solar panels given they:
  - are low risk assets.
  - present a reduced risk of bushfire ignition.
  - can readily be replaced if damaged by a bushfire.

The proposed development is considered to be compliant with A2.1.

Bushfire Protection Criteria 7	AS	OA	N/A
<b>A2.2 Asset Protection Zone (APZ)</b>	✓	<input type="checkbox"/>	<input type="checkbox"/>
<p>The proposed development has an APZ sufficient for the potential radiant heat flux to not exceed 10 kW/m<sup>2</sup> for the BESS pods, distribution pod and office/workshop and will be managed in accordance with the APZ Technical Requirements (WAPC, 2024b; Appendix D; Figure 6).</p> <p>An APZ will also be established around the solar panels with a minimum width of 10 m in accordance with the Position Statement (Figure 6).</p> <p>The APZ can be contained within the boundaries of the lot or managed in perpetuity in a low fuel state.</p> <p>The proposed development is considered to be compliant with A2.2.</p>			
<b>A2.3 Clearing of native vegetation</b>	✓	<input type="checkbox"/>	<input type="checkbox"/>
<p>Native vegetation is required to be cleared to facilitate the APZs and access tracks prescribed in this BMP. This BMP has minimised the clearing of native vegetation by adopting a 10 m wide APZ around the solar assets in line with the Position Statement.</p> <p>This clearing and modification of native vegetation has been considered in the Native Vegetation Clearing Permit prepared for the project (WEPL, 2025).</p> <p>The proposed development is considered to be compliant with A2.3.</p>			
<b>A2.4 Storage of hazardous, flammable and/or combustible materials</b>	✓	<input type="checkbox"/>	<input type="checkbox"/>
<p>Storage of hazardous, flammable and/or combustible materials will be done so in an area subject to BAL-29 or lower as well as in accordance with the relevant occupational health and safety and dangerous goods legislation. Significant areas of BAL-12.5 are available within the subject site which would be suitable for hazardous, flammable or combustible materials storage (Figure 5).</p> <p>The proposed development is considered to be compliant with A2.4.</p>			
<b>Element 3: Vehicular access</b>	✓	<input type="checkbox"/>	<input type="checkbox"/>
<b>A3.1 Private driveways</b>			
<p>Private driveways/access tracks within the subject site have a minimum width of 6 m throughout (Figure 6). This width allows sufficient space for vehicles to pass one another and as such, no passing bays are proposed or required to satisfy the requirements of the Guidelines. The proposed internal access tracks will be designed in accordance with the <i>Vehicular Access Technical Requirements</i> set out in the Guidelines (Appendix E).</p> <p>The proposed development is considered to be compliant with A3.1.</p>			
<b>Element 4: Water</b>	✓	<input type="checkbox"/>	<input type="checkbox"/>
<b>A4.1 Water supply</b>			
<p>Bore water connections are available in the area; however these do not meet the requirements for firefighting purposes as per Department of Fire and Emergency Services Guidelines <i>GL-06: Acceptable Sources of Water Supply for Fire Hydrant/Sprinkler Systems</i> (DFES, 2017). As such, the proposed development will be accompanied by a series of static firefighting water tanks, with locations indicatively shown on Figure 6. A total minimum volume of 388 kL is proposed to be supplied at the subject site, which encompasses 10 kL for the office in accordance with the Guidelines given it is considered a habitable building; 288 kL for the BESS unit in accordance with the CFA Guidelines; and 45 kL at each of the entrance to the facility in accordance with the CFA Guidelines, to ensure that firefighting water can be accessed under differing wind conditions. This is discussed further in Appendix A.</p> <p>The proposed development is considered to be compliant with A4.1.</p>			

Note: AS - Acceptable Solution, OA - Outcomes-based Approach, N/A - Not applicable.

## 5.2 Additional Bushfire Management Measures

### 5.2.1 Renewable Energy Assessment Framework

SPP 3.7 and the Guidelines do not currently provide a comprehensive assessment framework for the assessment of renewable energy facilities, with many of the bushfire requirements only applicable to habitable buildings. Consequently, assessment of Djarindjin-Aalga Goorlil Solar Farm against the bushfire protection criteria of the Guidelines may be considered insufficient given the additional risk associated with the proposed development. In the absence of a bushfire assessment framework catered towards renewable energy facilities in Western Australia, the CFA Guidelines are considered the most appropriate framework currently available in Australia. The proposed development has therefore been assessed against the requirements of the CFA Guidelines, tailored to Western Australia. The assessment against the CFA Guidelines (Appendix A) is considered to meet the general objectives and policy requirements of SPP 3.7.

### 5.2.2 Construction Standards

As none of the proposed structures are a Class 1, 2, 3 or an associated Class 10a, construction to AS 3959: 2018 is not required for this proposal. However, WEPL recommends that ember protection measures in Sections 3 and 5 of AS 3959: 2018 are incorporated into the design and construction of the storage shed and office where possible, given their close proximity to the BESS units.

### 5.2.3 Water tank requirements

Each tank and associated stand will be above-ground, constructed of non-combustible material and comply with *Australian/New Zealand Standard 3500.1: 2021 Plumbing and drainage Part 1: Water services* (SA, Standards New Zealand, 2021).

All exposed water supply pipes and fittings will be metal. Fittings should be located away from the source of bushfire attack.

Each tank will be fitted with a 50 mm male camlock coupling with full flow valve.

As this is a static fire water supply, no pumps will be supplied to accompany the water tanks.

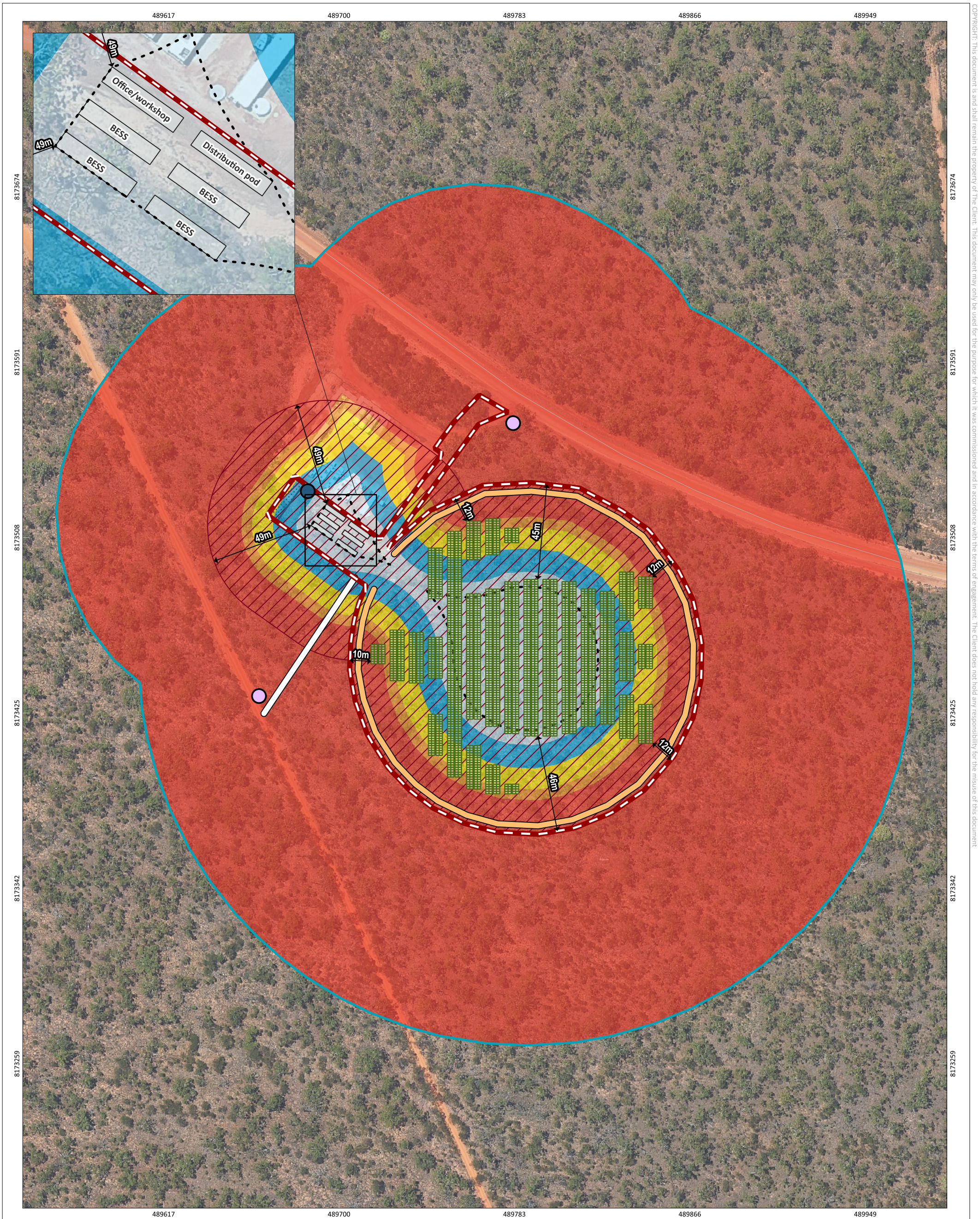


Figure 6: Bushfire Mitigation Measures

		<b>PROJECT/REPORT NAME</b> Bushfire Management Plan Djarindjin Lombadina Road, Djarindjin		<b>Legend</b>		<b>Bushfire Attack Level (BAL)</b>	
<b>SCALE</b> 1:1,650		<b>SHEET SIZE</b> A3 COLOUR		Subject Site		Indicative 300kL water tank	
<b>COORDINATE REFERENCE SYSTEM</b> GDA2020 / MGA zone 51		<b>CLIENT</b> RFF		Buffer 100m		Indicative 45kL water tank	
<b>DATA SOURCE</b> LANDGATE AERIAL IMAGERY		<b>PROJECT NUMBER</b> A25.094		Asset Protection Zone (APZ)		10kW/m <sup>2</sup> (1090K)	
		<b>VERSION</b> 0		Solar panel		Indicative secondary access track (6m wide)	
		<b>DATE</b> 12/11/2025		Renewable power generation facility		Internal perimeter road (6m wide)	
		<b>DRAWN BY / REVIEWED BY</b> SM/BF		Carpark		BAL-FZ	
						BAL-40	
						BAL-29	
						BAL-19	
						BAL-12.5	
						BAL-LOW	

## 6. Responsibilities for Implementation and Management of Bushfire Management Measures

Responsibility for implementation of the bushfire risk management measures outlined in Section 5 of this BMP applies to the developer, future owners/builders within the subject site and the local government. Table 7 provides a works program detailing these measures, timing of implementation and responsibility.

**Table 7: Proposed Works Program**

No.	Bushfire management measure
<b>Developer responsibilities - Prior to issue of Titles</b>	
1	Ensure that APZs are established and maintained as per the design in Figure 6.
2	Provide reticulated water supply to all firefighting water tanks in accordance with the Guidelines and the CFA Guidelines as indicatively shown in Figure 6.
3	Construct private driveways/internal access roads in accordance with the Guidelines.
4	Implement the bushfire mitigation measures set out in the CFA Guidelines assessment in Appendix A of this document.
5	At detailed design stage, ensure that a minimum separation distance of 10 m is implemented between the solar arrays and classified vegetation as identified in this BMP.
<b>Landowner responsibilities - Ongoing</b>	
6	Maintain APZs to the standard in the Guidelines.
7	Maintain clear access via the private driveways/internal access roads at all times.
8	Ensure water tanks are full during the peak Fire Danger Period and are refilled immediately after use in a bushfire emergency.

## 7. Conclusion

In the professional opinion of the author, the proposed development satisfies the intent, aim and objectives of SPP 3.7 and the Guidelines and is recommended for approval.

## 8. References

Department of Fire and Emergency Services (DFES). (2017). *GL-06: Acceptable Sources of Water Supply for Fire Hydrant/Sprinkler Systems. (Bores, Dams, Rivers, Lakes and Seawater)*. Government of Western Australia.

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### Datasets Used

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# Appendix A:

## CFA Guidelines Assessment

## Background

New and emerging renewable energy technology has outpaced the development of fire and emergency management standards and guidance, especially in Western Australia. The State Government has identified the need for a comprehensive bushfire assessment framework specific to renewable energy facilities however this is yet to be developed. In the absence of a Western Australian assessment framework, the Country Fire Authority (CFA) *Design Guidelines and Model Requirements for Renewable Energy Facilities Version 4* (the CFA Guidelines; State of Victoria, 2023) is considered to provide the most appropriate framework for the assessment of renewable energy facilities in designated bushfire prone areas.

The proposed solar arrays, BESS, and associated infrastructure have been assessed against the requirements of the CFA Guidelines tailored to the Western Australian planning system in this appendix. It should be noted that only tangible and spatial considerations from the CFA Guidelines have been incorporated into the assessment. Bushfire planning requirements have been assessed against the Western Australian Standards and Guidance that are sufficiently addressed in *Australian Standard 3959 Construction of buildings in bushfire-prone areas* (AS 3959; SA, 2018), *State Planning Policy 3.7 Bushfire* (SPP 3.7; WAPC, 2024a), and the *Planning for Bushfire Guidelines* (the Guidelines; WAPC, 2024b).

## Facility Location

The subject site is considered a high-risk environment under the CFA Guidelines given it is designated as bushfire prone as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES, 2024). Renewable energy facilities proposed in high-risk environments must address the following:

- An assessment against SPP 3.7 and the associated Guidelines (in Western Australia).
- The impact of any ignitions arising from the renewable energy infrastructure on nearby communities, infrastructure and assets.
- The impact of bushfire on the renewable energy infrastructure (e.g. ember attack, radiant heat impact and flame contact).
- Assessment of whether the proposal will lead to an increase in risk to adjacent land and how the proposal will reduce risks on site to an acceptable level.

The above requirements have been appropriately addressed through the preparation of this BMP and information provided by the Proponent.

WEPL is not aware of peat soils within 10 m of the proposed infrastructure. Peat is unlikely to be present given an absence of wetland habitat in and around the subject site.

# Facility Design

## Emergency Vehicle Access

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
<p>Roads must be of all-weather construction and capable of accommodating a vehicle of 15 tonnes.</p>	✓	<p>A new internal access road is proposed to be constructed as part of the development. The access road will be constructed of an all-weather surface material and designed to accommodate a 15-tonne vehicle.</p>
<p>Constructed roads should be a minimum of four (4) metres in trafficable width with a four (4) metre vertical clearance for the width of the formed road surface.</p>	✓	<p>The internal access road is proposed to be a minimum 6 m in width constructed of an all-weather surface material. A 4 m vertical clearance will be maintained at all times.</p>
<p>The average grade should be no more than 1 in 7 (14.4% or 8.1°) with a maximum of no more than 1 in 5 (20% or 11.3°) for no more than 50 metres.</p>	✓	<p>Finished ground levels will be determined during detailed design stage. Road grades will be designed to adhere to the relevant requirements of the Guidelines.</p>
<p>Dips in the road should have no more than a 1 in 8 (12.5% or 7.1°) entry and exit angle.</p>	✓	<p>Finished ground levels will be determined during detailed design stage. Road grades will be designed to adhere to the relevant requirements of the Guidelines.</p>
<p>Roads must incorporate passing bays at least every 600m, which must be at least 20 metres long and have a minimum trafficable width of six (6) metres. At least one passing bay must be incorporated where roads are less than 600 metres long.</p>	✓	<p>The proposed internal access road is less than 600 m in length and therefore will not require passing bays. The proposed internal access road will be 6 m wide.</p>
<p>Road networks must enable responding emergency services to access all areas of the facility, including fire service infrastructure, buildings, BESS and related infrastructure, substations and grid connection areas.</p>	✓	<p>The existing public road networks provide adequate access for emergency vehicles given there are two access points to the subject site - one from each of Lombadina Road and Djaradgin Road. Both of these roads are unsealed, yet provide a suitable trafficable surface for a Type 3.4 firefighting appliance to gain access to the subject site. Lombadina Road and Djaradgin Road have a minimum width of 7 m.</p>

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p><b>Provision of at least two (2) but preferably more access points to each part of the facility. The number of access points must be informed through a risk management process.</b></p>	<p>✓</p>	<p>Multiple access points are available into the subject site as discussed above. Internal access tracks facilitate vehicular access to each part of the renewable energy facility, including all solar arrays for light tankers only. Heavy tankers will be restricted to traverse Lombadina Road, Djaradgin Road and the internal access track. The 10 m cleared buffer around the solar arrays will be constructed in accordance with the requirements of the <i>Shire of Broome Western Australia Fire Break &amp; Fuel Hazard Reduction Notice</i> (Shire of Broome Fire Break Notice; Shire of Broome, n.d.). These internal access tracks are depicted on Figure 6 of the BMP.</p>
<b>Solar Energy Specific Requirements</b>		
<p><b>Where solar energy facilities are designed over several land parcels separated by private or public roads, overhead powerlines, and/or water courses, vehicle entrances are to be provided into each section.</b></p>	<p>✓</p>	<p>The solar arrays are designed over a single parcel of land and will have two points of access from the public road network.</p>
<b>BESS Specific Requirements</b>		
<p><b>At least two access points are to be provided into each section where battery energy storage systems are located.</b></p>	<p>✓</p>	<p>Two access points will be available to the BESS units from Lombadina Road and Djaradgin Road.</p>

## Firefighting Water Supply

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
Water access points must be clearly identifiable and unobstructed to ensure efficient access.	✓	Water tanks will be provided on site for the storage static water for firefighting purposes. Water access points will be clearly identifiable through signage. All water tanks are located for ease of access and will remain unobstructed.
Static water storage tank installations must comply with AS 2419.1-2021: Fire hydrant installations – System design, installation and commissioning.	✓	The water supply system will be designed in accordance with <i>Australian Standard 2419.1 Fire hydrant installations - Part 1: System design, installation and commissioning</i> (AS 2419.1: 2021; SA, 2021). This will be documented at detailed design stage.
The static water storage tank(s) must be an above-ground water tank constructed of concrete or steel.	✓	The static water storage tanks will be above ground and constructed from concrete or steel.
The static water storage tank(s) must be capable of being completely refilled automatically or manually within 24 hours.	✓	The static water storage tanks will be refilled within 24 hours either automatically via a groundwater bore or manually through a local water supply contractor. This will be documented at detailed design stage.
The static water storage tanks must be located at vehicle access points to the facility and must be positioned at least ten (10) metres from any infrastructure (solar panels, wind turbines, battery energy storage systems, etc.).	✓	One 50 kL static water storage tank will be located at each entrance and setback a minimum 10 m from the renewable energy infrastructure.
The hard-suction point must be provided, with a 150 mm full bore isolation valve equipped with a Storz connection, sized to comply with the required suction hydraulic performance.	✓	The static water storage system is subject to detailed design however it is expected that each tank will be fitted with the required connection valves and adapters, including a Storz connection.
The hard-suction point must be positioned within four (4) metres to a hardstand area and provide a clear access for emergency services personnel.	✓	The static water storage tanks and connection points will be located within 4 m of the internal access roads for ease of access. This will be documented at detailed design stage.
An all-weather road access and hardstand must be provided to the hard-suction point. The hardstand must be maintained to a minimum of 15 tonne GVM, 15 m long and 6 m wide, in accordance with <i>GL-11: DFES Site Planning and Fire Appliance Specifications</i> (DFES, 2023).	✓	A hardstand will be provided to the water connection points for fire service access. The hardstands will be designed to DFES specifications, including minimum 15 tonne GVM, 15 m in length and 6 m wide. This will be documented at detailed design stage.

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
The road access and hardstand must be kept clear at all times.	✓	The internal roads and hardstands will be kept clear at all times.
The hard-suction point must be protected from mechanical damage (e.g. bollards) where necessary.	✓	The static water supply system is subject to detailed design. It is likely that bollards will be installed to protect the water connection points from damage.
Where the access road has one entrance, an eight (8) metre radius turning circle must be provided at the tank.	N/A	No static water supply tanks are proposed on dead-end roads.
An external water level indicator must be provided to the tank and be visible from the hardstand area.	✓	All static water storage tanks will be fitted with a level indicator, visible from the hardstand area. This will be documented at detailed design stage.
Signage indicating 'FIRE WATER' and the tank capacity must be fixed to each tank.	✓	Signage will be installed on each static water storage tank.
Signage must be provided at each vehicle entrance to the facility, indicating the direction to the nearest static water tank(s).	✓	Signage will be installed at each of the entrances to the renewable energy facility.

#### Solar Energy Specific Requirements

The fire protection system for solar energy facilities must incorporate at least one (1) x 45,000 L static water tank at the primary vehicle entrance to each part of the facility.	✓	One 45 kL firefighting water tank will be provided reasonably adjacent to each of the two access points to the solar facility.
Additional static fire water tanks of at least 45,000 L effective capacity must also be incorporated for every 100 ha.	✓	Given the solar facility is approximately 2.5 ha in area, no additional firefighting water tanks are required to service a solar array fire than what is specified in the section above.

#### BESS Specific Requirements

<p>For standalone BESS facilities where there is no reticulated water available, the fire hydrant system that complies with AS 2419.1: 2021 must provide:</p> <ol style="list-style-type: none"> <li>the fire water supply must be of a quantity no less than 288,000 L or as per the provisions of AS 2419.1: 2021: <i>Fire hydrant installations</i>, Table 2.2.5 (D) for open yards flowing for a period no less than four hours at 20 L/s, whichever is the greater.</li> <li>The quantity of static fire water storage is to be calculated from the number of hydrants required to flow from AS 2419.1: 2021: <i>Fire hydrant installations</i>, Table 2.2.5 (D).</li> <li>Fire hydrants must be provided and located so that every part of the BESS is within reach of a 10 m hose stream</li> </ol>	✓	The proposed development design includes provisions for six 50 kL static fire water tanks for each bushfire prone BESS yard, in line with the requirements of Table 2.2.5 (D) of AS 2419.1: 2021. This totals 300 kL of water per BESS yard. This volume of water may be provided with any configuration of water tank number and sizes, if the volume is sufficient to meet the minimum 288 kL requirement for a yard size <3,000 m <sup>2</sup> .
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CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p>issuing from a nozzle at the end of a 60 m length of hose connected to a fire hydrant outlet (70 m coverage).</p> <ul style="list-style-type: none"> <li>iv. The fire water supply must be located at vehicle entrances to the facility, at least 10 m from any infrastructure (electrical substations, inverters, BESS, buildings, etc).</li> <li>v. The fire water supply must be reasonably adjacent to the BESS and shall be accessible without undue danger in an emergency (E.g. fire water tanks are to be located closer to the site entrance than the BESS).</li> <li>vi. The fire water supply must comply with <i>AS 2419.1: 2021: Fire hydrant installations</i>, Section 5: Water storage tanks.</li> </ul>		



**Figure 9:** Best-practice arrangement of fire service infrastructure at facilities with centralised battery energy storage systems without reticulated water supply, or a reticulated water supply that does not meet the performance requirements of *AS 2419.1: 2021: Fire hydrant installations*.

## Fire Detection and Suppression Equipment

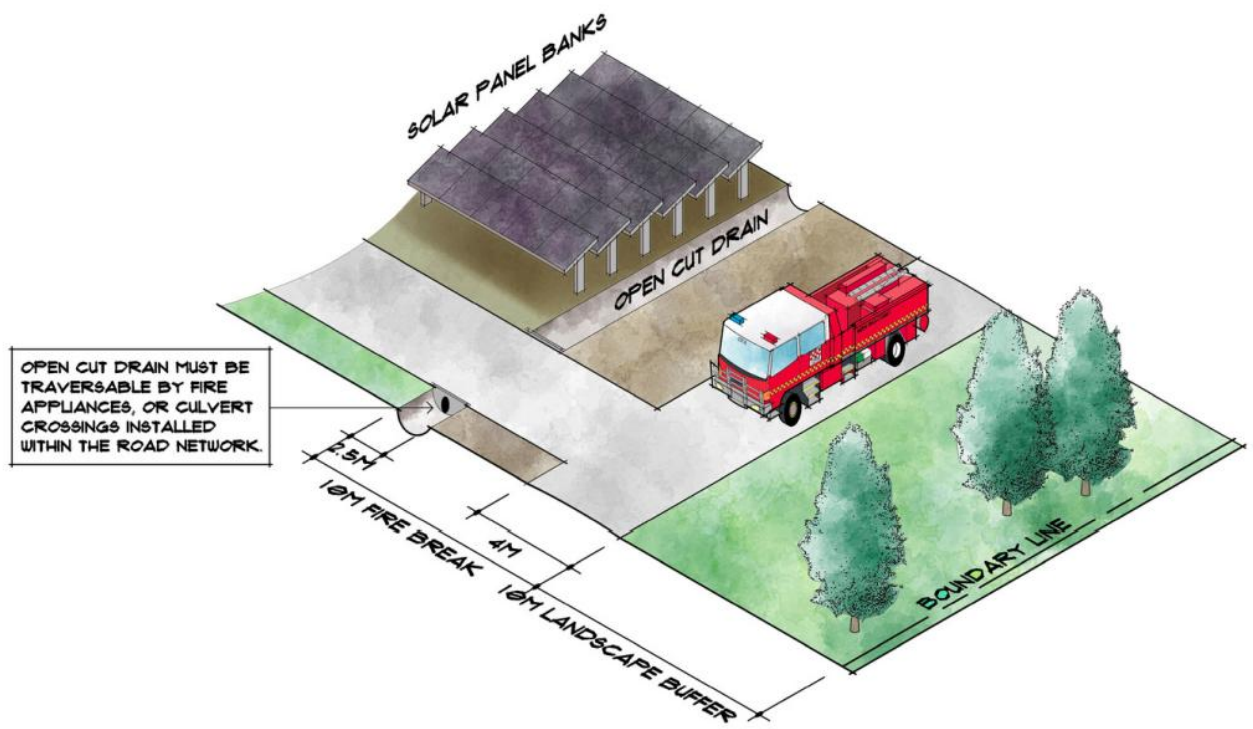
CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
<p><b>Suitable fire detection and suppression equipment must be provided:</b></p>		
<ul style="list-style-type: none"> <li>a. For on-site buildings and structures, according to the requirements of the National Construction Code (NCC).</li> <li>b. For storage of dangerous goods, according to the requirements of any Australian Standards for storing and handling dangerous goods.</li> <li>c. For electrical installations, a minimum of two (2) suitable fire extinguishers must be provided within 3m - 20m of each Power Conversion Unit.</li> <li>d. In all vehicles and heavy equipment, each vehicle must carry at least a nine (9) litre water stored pressure fire extinguisher with a minimum rating of 3A, or other firefighting equipment as a minimum when on-site during the Fire Danger Period.</li> </ul>	<p>✓</p>	<p>Fire detection and suppression equipment will be provided in accordance with the relevant legislation.</p> <p>Each power conversion unit will be fitted with aerosol fire extinguishing device along with smoke detectors, heat detectors, combustible gas detectors, water fire suppression system and audible alarm.</p> <p>All authorised vehicles will be required to carry a fire extinguisher which will be confirmed during site inductions as part of the operational management plan.</p>

## Landscape Screening and On-Site Vegetation

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
Any proposed or existing vegetation must be considered in the BMP for its potential to intensify and propagate fire within and away from the site.	✓	The BMP considers all existing and proposed vegetation within 150 m of the subject site.
Where landscape screening is required, for example, to screen visual impacts, the design must consider any potential increase in fire risk due to the type (species), density, height, location and overall width of the screening.	✓	No screening vegetation is proposed as part of the development. Landscape screening may be incorporated at detail design stage. In such a case, the BMP will be updated to ensure no intensification of bushfire risk.
Facilities must be designed so that the radiant heat flux (output) from vegetation does not create the potential for ignition of on-site infrastructure or other vegetation.	✓	The proposed BESS will be surrounded by an Asset Protection Zone (APZ) to ensure the radiant heat flux from vegetation is maintained at 10 kW/m <sup>2</sup> which exceeds SPP 3.7 policy requirements. The solar array will have a minimum 10 m wide APZ in accordance with <i>Position Statement: Renewable energy facilities</i> (Position Statement; WAPC, 2020).
Radiant heat impact leading to ignition may be mitigated through: <ul style="list-style-type: none"> <li>• Vegetation removal (where permitted).</li> <li>• Separation from nearby infrastructure (e.g., fire breaks; refer below).</li> <li>• The provision of thermal barriers at nearby infrastructure.</li> </ul>	✓	The radiant heat impact has been reduced through the establishment of an APZ to maintain separation between infrastructure and retained vegetation.
<b>Solar Energy Specific Requirements</b>		
Where practicable, low flammability vegetation (such as root vegetables) may be planted under solar panels provided foliage does not extend beyond the panel footprint.	✓	No vegetation is proposed to be planted below solar panels. If this is considered at later stages in the design and operation process, the facility operator will ensure the foliage does not extend beyond the panel footprint.
<b>Substation Specific Requirements</b>		
Substations should be surfaced to eliminate all vegetation including grasses.	✓	All substations will be non-vegetated and surfaced, post-development.

## Firebreaks

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
A firebreak must be established and maintained around the perimeter of the facility, commencing from the boundary of the facility or from the vegetation screening inside the property boundary.	✓	A perimeter firebreak with minimum width of 4 m will be maintained within 6 m of the external boundaries of the subject site, in accordance with the Shire of Broome Fire Break Notice.
A firebreak must be established and maintained around the perimeter of controls rooms, electricity compounds, substations and all other buildings onsite.	✓	Internal access roads will provide perimeter access around the BESS, substations and all other associated infrastructure and buildings. This will be documented at detail design stage.
The width of fire breaks must be a minimum of 10 m, and at least the distance where radiant heat flux (output) from the vegetation does not create the potential for ignition of on-site infrastructure.	✓	A minimum 10 m wide cleared buffer will be provided inside the boundary of BESS yard and solar farm. The firebreak buffer will contain non-combustible retaining walls, internal access roads and/or cleared land (non-vegetated) managed as part of the APZ. A 10 m wide APZ will be established around the solar array in accordance with the Position Statement. The APZ for the BESS has been calculated in relation to the 10 kW/m <sup>2</sup> radiant heat threshold which well exceeds the 10 m minimum requirement.
<b>BESS Specific Requirements</b>		
A firebreak must be established and maintained around battery energy storage systems and related infrastructure.	✓	A minimum 10 m wide cleared buffer will be provided inside the boundary of the BESS yard. The firebreak buffer will contain non-combustible retaining walls, internal access roads and/or cleared land (non-vegetated) managed as part of the APZ. The APZs have been calculated in relation to the 10 kW/m <sup>2</sup> radiant heat threshold.
In addition to radiant heat flux (output) from vegetation, the width of fire breaks between vegetation and battery energy storage systems must be at least the distance where the radiant heat flux (output) from the battery energy storage system fully involved in fire does not create the potential for ignition of vegetation.	✓	A minimum 10 m wide cleared buffer will be provided inside the boundary of the BESS yard. The firebreak buffer will contain non-combustible retaining walls, internal access roads and/or cleared land (non-vegetated) managed as part of the APZ. The APZs have been calculated in relation to the 10 kW/m <sup>2</sup> radiant heat threshold.



**Figure 10:** Typical cross-section indicating fire break requirements at a solar energy facility.

## Design Specific to Facility Type

### Solar Energy Specific Requirements

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
Solar energy facilities are to have a minimum six (6) metre separation between solar panel banks.	✓	When detailed design of the solar farms is undertaken following the planning approval of the proposed development, 6 m separation between solar panels banks will be incorporated in the design.

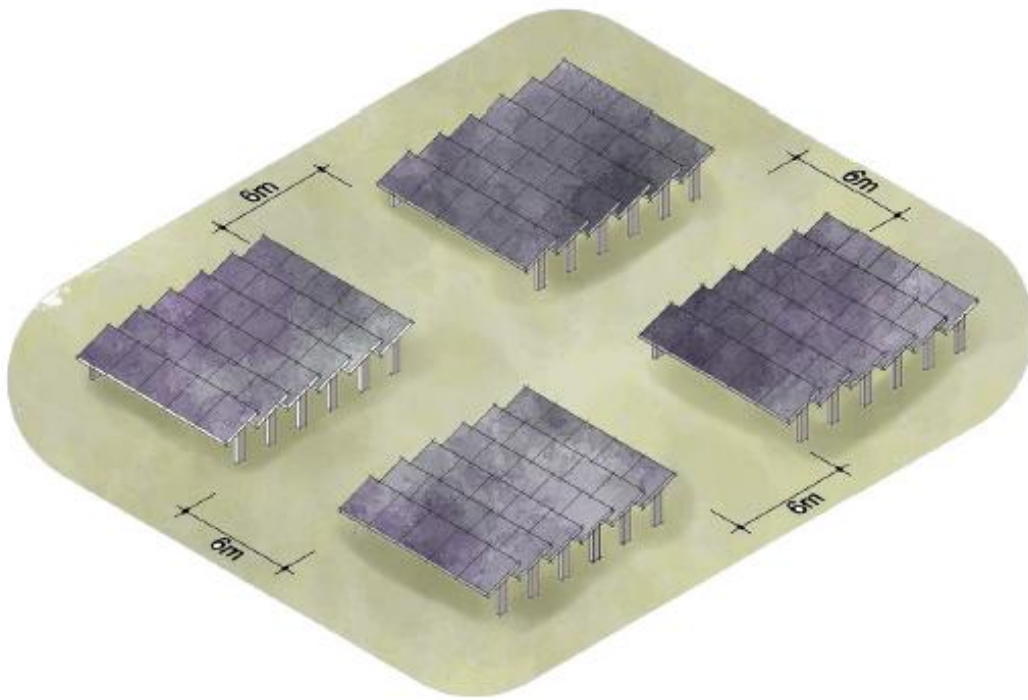


Figure 12: Six metre separation between solar panel banks (indicative only).

### BESS Specific Requirements

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p>The design of the BESS facility must incorporate a separation distance that prevents fire spread between battery containers / enclosures and:</p> <ul style="list-style-type: none"> <li>• Other battery containers / enclosures.</li> <li>• On-site buildings.</li> <li>• Substations.</li> <li>• The site boundary.</li> <li>• Any other site buildings.</li> <li>• Vegetation.</li> </ul>	✓	<p>All components of the BESS facility will be designed to prevent fire spread.</p> <p>Detailed design will ensure separation distances within the subject site are in line with globally accepted standard NFPA 855 - Standard for Installation of Statutory Energy Storage Systems (NFPA, 2023) and manufacturers specifications.</p>

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p>The design must incorporate a firebreak around the BESS and related infrastructure, of a width of no less than 10 m.</p>	✓	<p>A 10 m firebreak will be provided (refer above).</p>
<p>The design must incorporate a layout of site infrastructure that:</p> <ul style="list-style-type: none"> <li>• Considers the safety of emergency responders.</li> <li>• Minimises the potential for grassfire and/or bushfire to impact the BESS.</li> <li>• Minimises the potential for fires to battery containers / enclosures to impact on-site and off-site infrastructure.</li> </ul>	✓	<p>The centralised layout enables first responders to safely access the site and fire suppression infrastructure in an emergency.</p> <p>The APZ also provides permanent separation between the proposed BESS facility and areas of vegetation.</p> <p>The BESS yard will utilise infrastructure that integrates fire prevention systems and controls to prevent potential fires. This will be finalised in detailed design.</p> <p>The BESS yard is accessible via multiple access tracks for ease of emergency responders' access and egress in the event of a fire.</p>
<p>The BESS must be located reasonably adjacent to a site vehicle entrance suitable for emergency vehicles.</p>	✓	<p>The BESS yard has an adjacent access point onto Lombadina Road.</p> <p>This entrance is suitable for Type 3.4 firefighting appliances.</p>
<p>The BESS must be located so that the site entrance and any fire water tanks are not aligned to the prevailing wind direction (therefore least likely to be impacted by smoke in the event of a fire at the BESS).</p> <p>The BESS must be provided with in-built fire and gas detection systems. Where these systems are not provided, measure to effectively detect fires within containers must be detailed within the Risk Management Plan.</p>	✓	<p>The BESS units can be accessed from multiple entrances and as such, different sides depending on the approach of bushfire.</p> <p>The exact locations of water tanks will be documented at detailed design stage. Locations will ensure that firefighting water will be accessible under differing wind conditions.</p> <p>The BESS will be provided with in-built smoke detectors, heat detectors and combustible gas detectors.</p>
<p>The BESS must be provided with explosion prevention via sensing and venting, or explosion mitigation through deflagration panels.</p>	✓	<p>The BESS will be provided with in-built smoke detectors and hydrogen gas detectors to prevent explosions.</p>
<p>The BESS must be provided with suitable ember protection to prevent embers from penetrating battery containers / enclosures.</p>	✓	<p>Any external gaps or ventilation systems can be fitted with ember protection. This will be documented at detailed design stage.</p>
<p>The BESS must be provided with suitable access roads for emergency services vehicles, to and within the site, including to BESS and fire service infrastructure.</p>	✓	<p>The access arrangements enable emergency service vehicles to effectively manoeuvre the site and access the fire service infrastructure, as demonstrated in the Emergency Vehicle Access section.</p>
<p>The BESS must be installed on a non-combustible surface such as concrete.</p>	✓	<p>The BESS will be installed on a non-combustible surface.</p>

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
The BESS must be provided with suitable ventilation.	✓	The BESS will be fitted with automatic ventilation system.
The BESS must be provided with impact protection to at least the equivalent of a W guardrail-type barrier, to prevent mechanical damage to battery containers / enclosures.	✓	Suitable impact protection measures may be developed, subject to final hazard risk assessment to be completed during detailed design stage.
The BESS must be provided with enclosed wiring and buried cabling, except where required to be above-ground for grid connection.	✓	All wiring will be enclosed and all cabling connecting the individual components will be underground.
The BESS must be provided with spill containment that includes provision for management of fire water runoff.	✓	BESS containers will be equipped with spill containment. Fire water runoff will be managed through detailed hydrology design.

## Facility Construction and Commissioning

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
Install and commission fire detection and suppression for the facility at the earliest possible stage of construction.	TBC	A construction programme is yet to be prepared for the project.
Provide first-aid firefighting equipment, such as fire extinguishers (and where possible, portable fire hose reels), appropriate to the identified emergency scenarios, at all construction portables / buildings onsite, in the vicinity of all construction activities, and in site-based vehicles.	✓	The onsite office building will include first-aid firefighting equipment.
Provide the required fire protection equipment for any storage of dangerous goods as per the relevant Australian Standards.	✓	Fire protection equipment will be provided in accordance with the relevant standards for the storage of dangerous goods.
Obtain appropriate permits for work during the restricted and prohibited burning periods and ensure that any conditions on the permits are adhered to.	✓	The proponent will be responsible for obtaining any necessary permits during restricted burn periods.
Adhere to restrictions on Total Fire Ban or days of elevated fire danger according to Emergency WA website.	✓	The proponent will adhere to the restrictions of Total Fire Ban days.
During the restricted and prohibited burning periods, ensure vehicle operators are instructed to remain on tracks and are not permitted to drive through paddocks.	✓	Vehicles will only be permitted on designated access roads.
Restrict smoking to prescribed areas and provide suitable ash and butt disposal facilities.	✓	Smoking will be restricted to a prescribed area, away from all fire hazards.
Provide remotely accessible site/system security monitoring at the facility.	TBC	This will be determined during the detailed design phase.
Provide training for personnel in the use of on-site first aid firefighting equipment, and responsibilities during emergencies.	✓	Personnel nominated as part of the emergency response team will be required to undertake first aid and firefighting equipment training.
Develop an Emergency Plan for the construction and commissioning phase of the project.	✓	A construction management plan will be developed for the project which will include emergency procedures during the construction and commissioning phase of the project.
Provide an emergency communication system that is reliable and will operate in the event of power failure.	✓	All vehicles will be fitted with two-way radios to enable communication during an emergency. Mobile phone reception is also available at the site.

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p><b>Notify DFES at least seven days prior to the commissioning of any renewable energy infrastructure at the facility.</b></p>	✓	<p>DFES will be notified prior to commissioning of the solar farm.</p>
<p><b>Develop safe work procedures for the facility, including but not limited to:</b></p> <ul style="list-style-type: none"> <li>• Electricity and chemical management.</li> <li>• Vegetation management.</li> <li>• Site security.</li> <li>• Ignition source control, including hot works.</li> <li>• Infrastructure, equipment and vehicle maintenance.</li> <li>• Emergency management.</li> </ul>	✓	<p>The proponent will develop an operational management plan which will include safe work procedures for the facility.</p>

## Facility Operation

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
<p>A BMP must be developed for the facility, in consultation with DFES, before development starts.</p>	✓	<p>A BMP has been prepared in accordance with SPP 3.7 and the Guidelines. The BMP may be referred to DFES in accordance with SPP 3.7 for advice as part of the assessment process. This is at the discretion of the Shire of Broome.</p>
<p>Undertake bushfire prevention and preparedness activities.</p>	✓	<p>An emergency plan will be prepared which will outline bushfire prevention and preparedness activities. In addition, bushfire prevention and preparedness activities will be undertaken in accordance with the Shire of Broome Fire Break Notice.</p>
<p>Facility operators must undertake the following measures:</p> <ul style="list-style-type: none"> <li>• Grass must be maintained at or below 100 mm in height.</li> <li>• Long grass and/or deep leaf litter must not be present in areas where heavy equipment will be working, during construction or operation.</li> <li>• Restrictions and guidance must be adhered to during days of high (and above) fire danger or Total Fire Ban days.</li> </ul>	✓	<p>The proposed renewable energy infrastructure will be surrounded by an APZ to ensure the radiant heat flux from vegetation is maintained at 10 kW/m<sup>2</sup> around for the BESS unit as well as 10 m minimum separation around the solar arrays. All grass within the APZ will be maintained at or below 100 mm and leaf litter will be removed on a regular basis.</p>
<p>Appropriate monitoring for facility infrastructure must be provided to ensure that any shorts, faults or equipment failures with the potential to ignite or propagate fire are rapidly identified and controlled.</p>	✓	<p>The facility will be subject to routine monitoring to identify any shorts, faults or equipment failures. The monitoring regime will be detailed in the operational management plan.</p>
<p>Inspection, maintenance and any required repair activities must be conducted for all infrastructure, equipment and vehicles at the facility. Maintenance must be in line with any relevant Australian Standards and manufacturers requirements.</p>	✓	<p>Inspection, maintenance and repairs will be undertaken in accordance with the relevant Australian Standards and manufacturers requirements.</p>

## Vegetation Management

Effective vegetation management can reduce both the risk of fire entering your facility, and the consequences of fire if it does occur.

- Gutters, roof surfaces and valleys, kerbs, traps, sumps, bunds, drains, roofs or any other accumulation points for leaf litter, dry vegetation, or any other combustible materials must be cleared, and the debris removed from site.
- Vegetation management activities must be conducted across the entire facility (e.g., grass slashing or mowing, removal of dead/fallen vegetation).
- Extraneous materials or vegetation in fire breaks at the site perimeter, at external building walls, and at other any site plant/assets must be cleared and removed from site.
- Extraneous or unnecessary materials (fuel loads) must be removed from site, e.g., mulch piles; dilapidated/stored vehicles, plant or equipment; excess fuel/chemicals; any combustible waste materials. Vehicles must not be parked on unmanaged vegetation.

All Facilities	Solar Energy Facilities	BESS Facilities	Substations and Electric Lines
<p>Facility operators must undertake the following measures during the Fire Danger Period:</p> <ol style="list-style-type: none"> <li>Grass must be maintained at or below 100 mm in height during the declared Fire Danger Period.</li> <li>Long grass and/or deep leaf litter must not be present in areas where heavy equipment will be working, during construction or operation.</li> <li>Restrictions and guidance must be adhered to during the Fire Danger Period, days of High (and above) fire danger and Total Fire Ban days.</li> </ol>	<p>Solar energy facilities must have grass maintained to no more than 100 mm under solar panels during the Fire Danger Period.</p> <p>Operators of solar energy facilities on grazed paddocks must ensure that if additional measures to maintain grass to this level are required, they are implemented prior to, and for the duration of the Fire Danger Period.</p>	<p>Containers/enclosures and infrastructure for battery energy storage systems must be maintained to be clear of vegetation, including grass, for at least 10 m on all sides, or greater as informed by the BMP.</p>	<p>Vegetation management within any electric line easement must ensure that falling trees would not impact the transmission lines, towers and associated infrastructure.</p>

## Emergency Planning

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<b>All Facilities</b>		
An Emergency Plan must be developed specific to the facility before the development starts.	✓	An emergency plan will be prepared and approved prior to operation of the development.
<p>The Emergency Plan should be developed in accordance with <i>AS 3745-2010: Planning for emergencies in facilities</i> (AS 3745: 2010; SA, 2010) and include the following:</p> <ul style="list-style-type: none"> <li>• Emergency prevention, preparedness and mitigation activities.</li> <li>• Activities for preparing for emergencies.</li> <li>• Control and coordination arrangements for emergency response (e.g. Evacuation procedures, shelter-in-place arrangements, emergency assembly areas and emergency response procedures).</li> </ul> <p>The agreed roles and responsibilities of on-site personnel (e.g. equipment isolation, fire brigade liaison, evacuation management, shelter-in-place management, if applicable).</p>	✓	The emergency plan will be developed in accordance with AS 3745: 2010 and any other relevant guidelines.
<b>Solar Energy Specific Requirements</b>		
<p>A solar energy facility Emergency Plan must additionally include:</p> <ul style="list-style-type: none"> <li>• Emergency procedures for isolation and shut-down where solar panels and/or related infrastructure are involved in fire.</li> <li>• Emergency procedures for fires within the vicinity of solar energy facilities.</li> <li>• Specifications for safe operating conditions for temperature, and the hazards related to electricity generation at the facility.</li> </ul>	✓	The emergency plan will be prepared in consultation with the relevant experts, taking into consideration the hazards identified in the risk assessment.
<b>BESS Specific Requirements</b>		
<p>The Emergency Plan for a BESS facility should also include:</p> <ul style="list-style-type: none"> <li>• The contact information for specialist technical support for the BESS.</li> <li>• Emergency response procedures based on identified risks and hazards of the BESS and related infrastructure.</li> <li>• Details of the elements monitored / controlled by the Battery Management System (BMS), including internal temperature, state of charge, voltage, etc. and the locations this information is available (e.g. BESS containers,</li> </ul>	✓	The emergency plan will be prepared in consultation with the relevant experts, taking into consideration the hazards identified in the risk assessment.

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p>in an on-site control room, off-site monitoring facility).</p> <ul style="list-style-type: none"> <li>• A plan for partial or full decommissioning of the BESS in the event of an emergency incident that renders the facility inoperable or unsafe, before its anticipated end-of-life.</li> </ul>		

## Provision of Emergency Information

CFA Guideline Requirements (Adapted to WA)	Compliance can be achieved	Compliance comments
<p>An Emergency Information Book must be developed and available to emergency responders. Emergency Information Books must be located in Emergency Information Containers, provided at each vehicle entrance to the facility.</p>	<p>✓</p>	<p>The Proponent will be responsible for preparing emergency information which are to be provided at the main entrance to the BESS facility.</p>

## References

Country Fire Authority (CFA). (2023). *Design Guidelines and Model Requirements for Renewables Energy Facilities Version 4*. State of Victoria.

Department of Fire and Emergency Services (DFES). (2023). *GL-11: DFES Site Planning and Fire Appliance Specifications*. DFES Built Environment Branch Guidelines. Government of Western Australia.

Department of Fire and Emergency Services (DFES). (2024). *Western Australia State Map of Bush Fire Prone Areas*.

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Standards Australia (SA). (2021). *Fire hydrant installations - Part 1: System design, installation and commissioning (AS 2419.1: 2021)*.

Standards Australia (SA). (2010). *Planning for emergencies (AS 3745-2010)*.




Western Australian Planning Commission (WAPC). (2020). *Position Statement: Renewable energy facilities*. Government of Western Australia.

Western Australian Planning Commission (WAPC). (2024a). *State Planning Policy 3.7 Bushfire*. Government of Western Australia.

Western Australian Planning Commission (WAPC). (2024b). *Planning for Bushfire Guidelines*. Government of Western Australia.

# Appendix B:

## Classified Vegetation Photos

<p><b>Plot 1</b></p> <p><b>Photo 1</b></p> <p>This plot consists of trees reaching up to 30 m in height at maturity. Overstorey canopy cover exceeds 30% throughout this plot and the understorey vegetation structure is multi-tiered.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	<p><b>Class A Forest</b></p> 
<p><b>Plot 1</b></p> <p><b>Photo 2</b></p> <p>This plot consists of trees reaching up to 30 m in height at maturity. Although the area had been very recently burnt, overstorey canopy cover is expected to exceed 30% throughout this plot once regenerated. Similarly, the understorey vegetation structure is expected to be multi-tiered once regenerated, based on the remnant dead material and surrounding vegetation in unburnt areas.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	<p><b>Class A Forest</b></p> 
<p><b>Plot</b></p> <p><b>Photo 3</b></p> <p>This plot consists of trees reaching up to 30 m in height at maturity. Although the area had been very recently burnt, overstorey canopy cover is expected to exceed 30% throughout this plot once regenerated. Similarly, the understorey vegetation structure is expected to be multi-tiered once regenerated, based on the remnant dead material and surrounding vegetation in unburnt areas.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	<p><b>Class A Forest</b></p> 

<b>Plot 2</b>	<b>Excluded - clause 2.2.3.2 (e)</b>
<p><b>Photo 4</b></p> <p>This plot consists of areas which have been cleared to accommodate the adjacent power generation facility. This plot is devoid of vegetation.</p>	
<b>Plot</b>	<b>Excluded - clause 2.2.3.2 (e)</b>
<p><b>Photo 5</b></p> <p>Lombadina Road, which is devoid of vegetation.</p>	
<b>Plot</b>	<b>Excluded - clause 2.2.3.2 (e)</b>
<p><b>Photo 6</b></p> <p>Djaradgin Road, which is devoid of vegetation.</p>	

# Appendix C:

## Method 2 BAL Calculations



# NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date:

4/11/2025

Assessment Date:

15/04/2025

Site Street Address: Djarindjin-Aalga Goorlil Solar Farm, Lombadina

Assessor: Daniel Panickar; Western Environmental

Local Government Area: WA

Alpine Area:

No

## Equations Used

Transmissivity: Fuss and Hammins, 2002

Flame Length: RFS PBP, 2001/Vesta/Catchpole

Rate of Fire Spread: Noble et al., 1980

Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005

Peak Elevation of Receiver: Tan et al., 2005

Peak Flame Angle: Tan et al., 2005

Run Description: Plot 1 Class A Forest

## Vegetation Information

Vegetation Type: Forest

Vegetation Group: Forest and Woodland

Vegetation Slope: 0 Degrees

Vegetation Slope Type: Level

Surface Fuel Load(t/ha): 25

Overall Fuel Load(t/ha): 35

Vegetation Height(m): 2

Only Applicable to Shrub/Scrub and Vesta

## Site Information

Site Slope: 0 Degrees

Site Slope Type: Downslope

Elevation of Receiver(m): Default

APZ/Separation(m): 49

## Fire Inputs

Veg./Flame Width(m): 100

Flame Temp(K): 1090

## Calculation Parameters

Flame Emissivity: 95

Relative Humidity(%): 25

Heat of Combustion(kJ/kg) 18600

Ambient Temp(K): 308

Moisture Factor: 5

FDI: 80

## Program Outputs

Level of Construction: BAL 12.5

Peak Elevation of Receiver(m): 9.52

Radiant Heat(kW/m2): 9.95

Flame Angle (degrees): 74

Flame Length(m): 19.8

Maximum View Factor: 0.169

Rate Of Spread (km/h): 2.4

Inner Protection Area(m): 35

Transmissivity: 0.774

Outer Protection Area(m): 14

Fire Intensity(kW/m): 43400

## BAL Thresholds

BAL-40: BAL-29: BAL-19: BAL-12.5: 10 kw/m2: Elevation of Receiver:

Asset Protection Zone(m): 17 22 31 42 64 6

# Appendix D:

## Asset Protection Zone Technical Requirements (WAPC, 2024a)

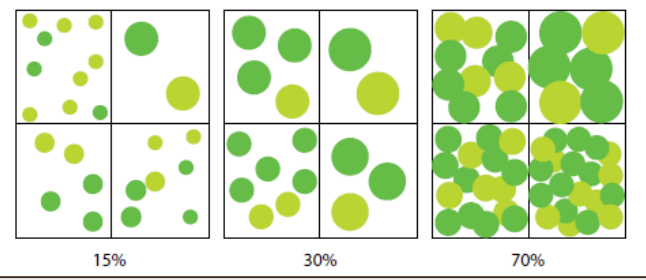
The following standards have been extracted from the Planning for Bushfire Guidelines (WAPC, 2024b).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

- a. Width: the APZ is measured from the development site, and of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29kW/m<sup>2</sup> (BAL-29) in all circumstances.
- b. Location: the APZ should be contained solely within the boundaries of the lot, except in instances where:
  - the vegetation on the adjoining lot(s) is, and will continue to be, low threat as per Clause 2.2.3.2 of AS 3959 or the APZ technical requirements, or an alternative standard on a local planning scheme, on an ongoing basis in perpetuity; or
  - the adjoining land is and will remain in perpetuity, non-vegetated.
- c. Management: the APZ is managed in accordance with the APZ technical requirements (below), or an alternative standard in a gazetted local planning scheme.

### APZ Technical Requirements

Object	Requirement
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter less than 6 mm in thickness)	<ul style="list-style-type: none"> <li>• Should be managed and removed on a regular basis to be maintained as a low threat vegetation.</li> <li>• Should be maintained at less than two tonnes per hectare (on average).</li> <li>• Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulch more than five millimetres in thickness.</li> </ul>
Trees* (more than 6 m in height)	<ul style="list-style-type: none"> <li>• Trunks at maturity should be a minimum distance of six metres from all elevations of the building.</li> <li>• Branches at maturity should not touch or overhang a building or powerline.</li> <li>• Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation.</li> <li>• Canopy cover within the APZ should be less than 15 per cent of the total APZ area.</li> <li>• Tree canopies at maturity should be at least 5 m apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided the total canopy cover within the APZ does not exceed 15 per cent and is not connected to the tree canopy outside the APZ.</li> </ul>

Object	Requirement
	 <ul style="list-style-type: none"> <li>• Tree canopy cover – ranging from 15 to 70 per cent at maturity</li> </ul>
<p><b>Shrub* and scrub* (0.5 m to 6 m in height). Shrub and scrub more than 6 m in height are to be treated as trees.</b></p>	<ul style="list-style-type: none"> <li>• Should not be located under trees or within three metres of buildings.</li> <li>• Should not be planted in clumps more than five square metres in area.</li> <li>• Clumps should be separated from each other and any exposed window or door by at least 10 metres.</li> </ul>
<p><b>Ground cover*(less than 0.5 m in height. Ground cover more than 0.5 m in height is to be treated as shrub)</b></p>	<ul style="list-style-type: none"> <li>• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in ‘Fine fuel load’ above</li> <li>• Can be located within two metres of a structure but three metres from windows or doors if more than 100 mm in height.</li> </ul>
<p><b>Grass</b></p>	<ul style="list-style-type: none"> <li>• Grass should be maintained at a height of 100 mm or less, at all times</li> <li>• Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.</li> </ul>
<p><b>Defendable space</b></p>	<ul style="list-style-type: none"> <li>• Within three metres of each wall or supporting post of a habitable building; the area is kept free from vegetation but can include ground cover, grass and non- combustible mulches as prescribed above.</li> </ul>
<p><b>Liquid petroleum gas cylinders</b></p>	<ul style="list-style-type: none"> <li>• Should be located on the side of a building farthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building.</li> <li>• The pressure relief valve should point away from the house.</li> <li>• No flammable material within six metres from the front of the valve.</li> <li>• Must sit on a firm, level and non-combustible base and be secured to a solid structure.</li> </ul>
<p><b>* Plant flammability, landscaping design and maintenance should be considered - refer to explanatory notes in the Guidelines.</b></p>	

## ADDITIONAL NOTES

An Asset Protection Zone (APZ) is a low fuel area, maintained around a building to increase the likelihood a building will survive a bushfire, by reducing the potential for direct flame contact, radiant heat exposure and ember attack. The APZ allows emergency services access and provides an area for firefighters and homeowners to defend their property.

An APZ should be contained within the boundaries of the lot on which the building is situated, except in instances where it is demonstrated the vegetation on the adjoining land is, and will continue to be, low threat as per cl. 2.2.3.2 of AS 3959, or the vegetation on the adjoining lot is, and will remain in perpetuity, non-vegetated. However, it should be noted there is no requirement for a neighbouring landowner or land manager (public or private) to be party to a legal agreement to undertake ongoing management of vegetation as low threat, in perpetuity.

# Appendix E:

## Vehicular Access Technical Requirements (WAPC, 2024b)

Technical requirements	Perimeter Roads		Public Roads		Emergency Access Way <sup>3</sup>		Fire Service Access Route <sup>3</sup>		Battle-Axe and Private Driveways <sup>1</sup>	
	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1
Map of Bush Fire Prone Areas Designation										
Minimum horizontal clearance (m)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (m)	4.5									
Minimum weight capacity (t)	15									
Maximum grade unsealed road <sup>2</sup>	See note 5		See note 5		1:10 (10% or 6 degrees)					
Maximum grade sealed road <sup>2, 4</sup>					1:7 (14.3% or 8 degrees)					
Maximum average grade sealed road					1:10 (10% or 6 degrees)					
Minimum inner radius of road curves (m)					8.5					

## NOTES

1. Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.
2. Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.
3. To have crossfalls between 3 per cent and 6 per cent.
4. For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.
5. As outlined in the Institute of Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards Main Roads standard, supplement, policy or guideline and/or any applicable or relevant local government standard or policy.





# Appendix E: Civil Engineering

Our Ref: JT/L299.25  
Job No: 25-08-114

12 November 2025

Djarindjin Aboriginal Corporation  
c/- RFF Australia Pty Ltd  
PO Box 88  
KARRATHA WA 6714

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Canning Bridge WA 6153

Tel: (08) 9315 9955  
Email: office@portereng.com.au  
www.portereng.com.au

**Attention: Tom Willday**

Dear Tom,

### **AALGA GOOLIL SOLAR FACILITY, DJARINDJIN ENGINEERING SERVICES REPORT**

The Engineering Services Report has been prepared in support of the proposed development by Djarindjin Aboriginal Corporation (DAC) at Lot 297 Broome-Cape Leveque Road, Dampier Peninsula. The Site is situated in the locality of the Shire of Broome near the Djarindjin townsite, the site location plan is shown in *figure 1* below.



**Figure 1 – Site location plan, Site bound in Red.**

The proposed development includes a solar panel farm, power generation facility and associated access roads and hardstand. A copy of the proposed development layout is presented in **Attachment A**.

## **LANDFORM**

A Geotechnical investigation<sup>1</sup> was completed at a nearby site (Djarindjin Campground) and testing found that the existing soils are made up of silty sand (Pindan). Permeability testing found that infiltration rates are in the order of 0.5 – 1.5 m/day.

A feature survey<sup>2</sup> prepared shows the natural topography of the site falling from a high of RL 26.0m at the northern boundary, falling at a constant grade to a low of RL 20.6m at the southern corner of the site. Survey information is shown on the concept design plan in *Attachment B*.

Groundwater was not encountered during the geotechnical investigation and it is not expected to affect the development.

## **SERVICING INVESTIGATION**

### ***Earthworks***

The existing site has a slight slope with an existing grade of approximately 1.5% from the north of the site to the south. As the allowable maximum grade of the solar farm area is 1.5%, it is proposed to closely match existing levels for the majority of the site to minimise earthworks and associated clearing. Levels may need to be raised in the southern area of the solar farm to enable construction of the stormwater storage swale with a free flowing outlet to natural levels. Concept finished surface levels are shown on the concept design plan in *Attachment B*.

Clearing extents shall be determined in accordance with bushfire management requirements.

Site preparation shall be undertaken in accordance with section 7.2.1 of the Geotechnical Report.

### ***Vehicle Access & Hardstand***

There is an existing crossover off Djarindjin-Lombadina Road which provides access to the existing power station. It is proposed to use this existing crossover to provide access to the new facility, with adjustments as required to suit turning movements of the proposed construction vehicles. There is an existing stormwater pipe under the current crossover which may need to be lengthened to suit the adjusted crossover width.

The access road shall be designed with a 1.5% longitudinal grade to match existing levels and 3% one-way crossfall to the southeast to direct stormwater runoff into the proposed swale. The car park and facilities hardstand area shall be designed to tie into the existing power station levels with a 3% grade to the south to direct stormwater into the proposed swale.

The access road pavement shall be designed to suit proposed maintenance vehicles (assumed max 12.5m single unit trucks). It is expected that the access road and carpark will comprise 300mm thick suitable basecourse material to suit low traffic volumes with a two coat seal surface. The solar farm hardstand is expected to comprise 200mm thick basecourse material to suit periodic maintenance vehicles.

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<sup>1</sup> Local Geotechnics – Project LGK8762019GI (25 September 2019)

<sup>2</sup> MNG - Job No. 41987 (3 September 2025)

### ***Stormwater***

The stormwater system will be designed to comply with the Shire of Broome requirements for the design of stormwater drainage systems.

Refer to the Stormwater Management Plan (L284.25) for concept design and calculations for the proposed stormwater retention swale and discharge structures.

### ***Water***

There is currently no water reticulation in the immediate vicinity of the site to enable a water service connection. A significant water main extension (approx. 1km) would be required from the townsite to the west in order to service the site. There is a new bore and treatment plant planned to be constructed to the east of Broome-Cape Leveque Road with a transfer main to the townsite to be constructed along Djarindjin-Lombadina Road, however it is unknown if a service connection off this main would be permitted. At the time of this report, advice is yet to be received from the Water Corporation Aboriginal Communities team.

DAC are currently proposing to utilise rainwater harvesting with suitably sized rainwater storage tanks to supply the site with water for the bathroom facilities and solar panel cleaning. If required this tank could be filled with carted water as necessary.

### ***Wastewater***

There is currently no wastewater reticulation in the immediate vicinity of the site to enable a sewer service connection. DAC are proposing to use a EcoLet 25a Fully Automatic Waterless Composting Toilet. Alternatively, an ATU unit with leach drains could be considered to service the site.

## **CONCLUSION**

There are no servicing constraints that prohibit this site from being developed as a solar power generation facility.

The following works are recommended to progress detailed design:

1. Confirm construction and maintenance vehicles and check swept paths to confirm crossover geometry.
2. Bulk earthworks design to confirm hardstand and swale levels.
3. Review and confirmation of proposed stormwater drainage system and outlets.

Yours faithfully,



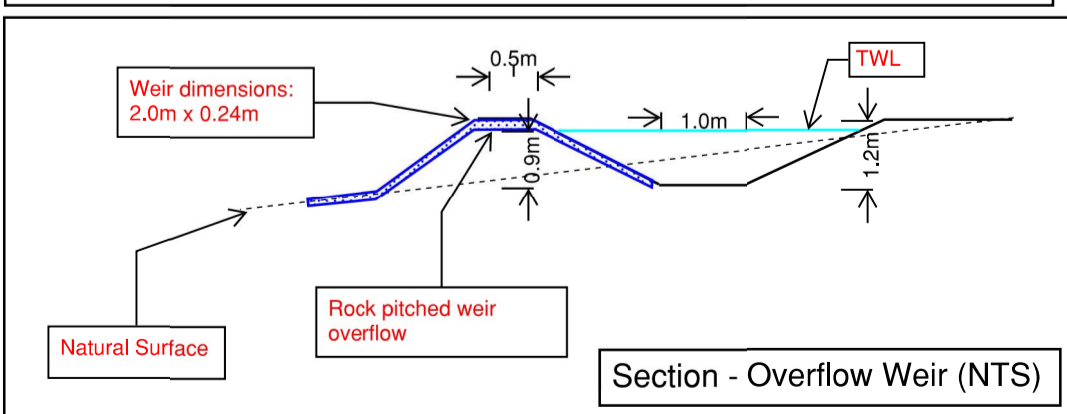
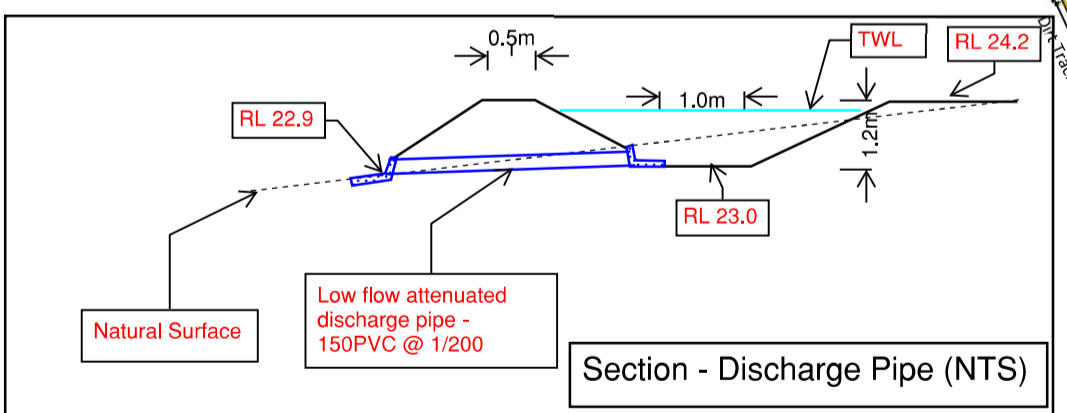
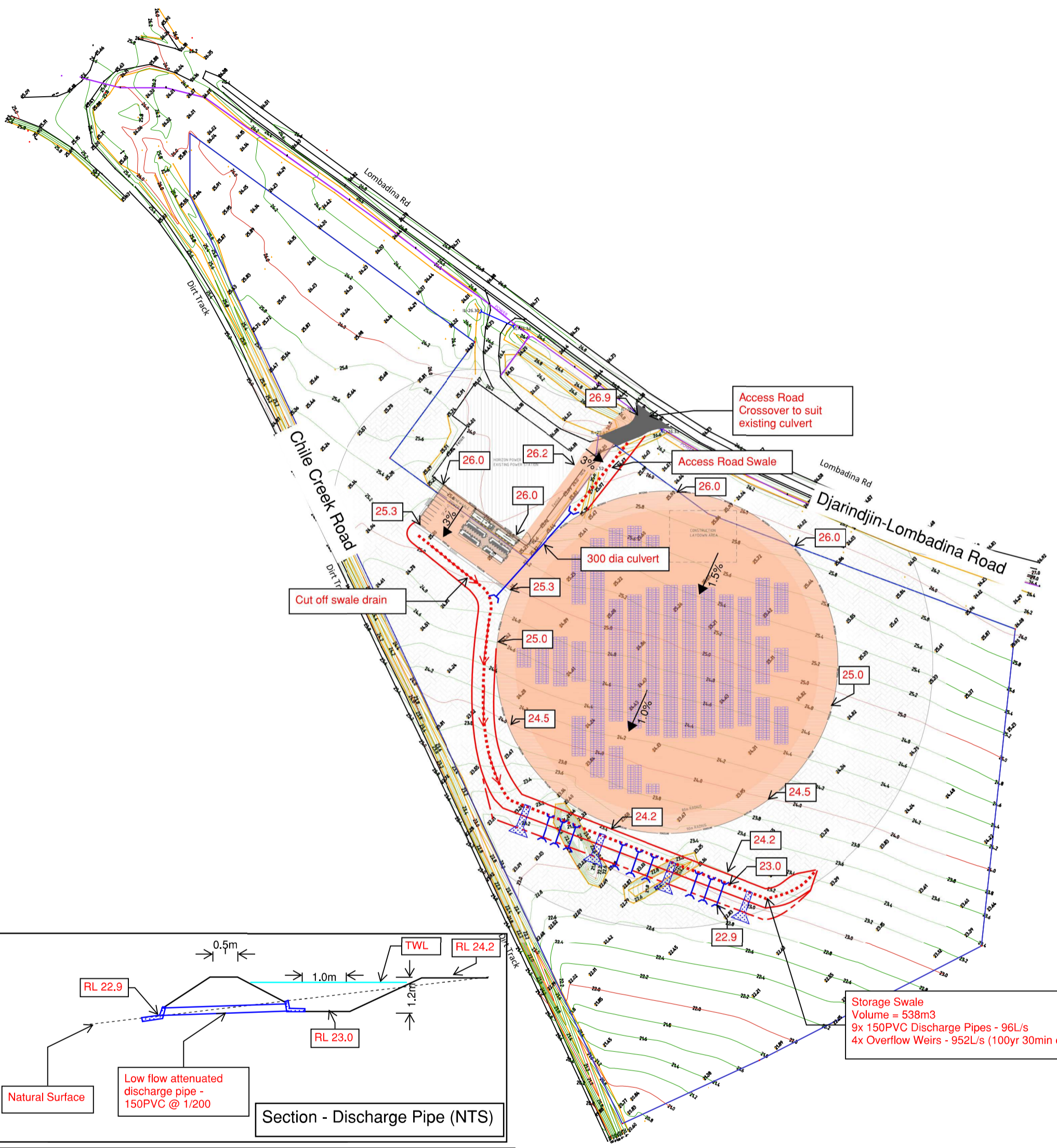
**JARRYD TREACY**  
**SENIOR CIVIL ENGINEER**

Enc.

**ATTACHMENT A – CONCEPT DEVELOPMENT LAYOUT**

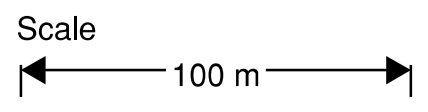


**ATTACHMENT B – CONCEPT DESIGN**



Storage Swale  
 Volume = 538m3  
 9x 150PVC Discharge Pipes - 96L/s  
 4x Overflow Weirs - 952L/s (100yr 30min event)

Note:  
 -Base of Swale Planted with Native Grasses  
 -Swale Batters Planted with Native Vegetation  
 -Bund to be stabilised with geofabric material





# Appendix F: Stormwater Management Plan

Our Ref: JT/L284.25\_B  
Job No: 25-08-114

11 November 2025

Djarindjin Aboriginal Corporation  
c/- RFF Australia Pty Ltd  
PO Box 88  
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Email: [office@portereng.com.au](mailto:office@portereng.com.au)  
[www.portereng.com.au](http://www.portereng.com.au)

**Attention: Tom Willday**

Dear Tom,

### **AALGA GOOLIL SOLAR FACILITY, DJARINDJIN STORMWATER MANAGEMENT PLAN**

The Site Stormwater Management Plan has been prepared in support of the proposed development at Lot 297 Broome-Cape Leveque Road, Dampier Peninsula. The Site is situated in the locality of the Shire of Broome near the Djarindjin townsite, the site location plan is shown in *figure 1* below.



**Figure 1 – Site location plan, Site bound in Red.**

The proposed development includes a solar panel farm, power generation facility and associated access roads and hardstand. A copy of the proposed development layout is presented in *Attachment A*.

## **LANDFORM**

A Geotechnical investigation<sup>1</sup> was completed at a nearby site (Djarindjin Campground) and testing found that the existing soils are made up of silty sand (Pindan). Permeability testing found that infiltration rates are in the order of 0.5 – 1.5 m/day.

A feature survey<sup>2</sup> prepared shows the natural topography of the site falling from a high of RL 26.0m at the northern boundary, falling at a constant grade to a low of RL 20.6m at the southern corner of the site. Survey information is shown on the concept design plan in *Attachment C*.

Groundwater was not encountered during the geotechnical investigation and it is not expected to affect the development.

## **STORMWATER DESIGN PRINCIPALS**

The stormwater system will be designed to comply with the Shire of Broome requirements for the design of stormwater drainage systems<sup>3</sup>. The relevant sections from the guidelines are listed below:

1. Water sensitive urban design (WSUD) should consider the overall impact of any given project to the water cycle, with intelligent design strategies to deliver downstream water outcomes to meet that of pre development.
2. Vegetation of batters with native vegetation and swale floors with native grasses is essential for creation of a sustainable asset as well as for the removal of urban nutrient loads.
3. The drainage system and all associated structures including compensating basins are to be designed to collect and convey an Average Recurrence Interval (ARI) storm event of one in 100 year storm event occurrence). Provision shall also be made for flows 100-year ARI storm such that the floor level of all buildings shall be a minimum of 400mm above the ARI 100-year flood level and be retained within the road reserve. Flows from subdivisional areas shall be compensated to predevelopment levels.
4. A coefficient of runoff of 90% shall be used for commercial and industrial sites.

### *Infiltration Rates*

Based on the infiltration testing at Djarindjin Campground, an infiltration rate of 1m/day has been adopted for the concept design.

### *Quality*

The base of the swales shall be planted with native grasses and side slopes shall be planted with native vegetation. The grasses and vegetation will treat the ‘first flush’ of stormwater in order to remove nutrient load prior to discharge. As traffic volumes on the site are expected to be minimal once construction is complete, water quality is not expected to be a significant issue.

In order to mitigate discharge of sediment downstream, low flow outlets shall be raised 50mm from the base of the swale in order to trap sediments in the swale.

---

<sup>1</sup> Local Geotechnics – Project LGK8762019GI (25 September 2019)

<sup>2</sup> MNG - Job No. 41987 (3 September 2025)

<sup>3</sup> Shire of Broome Local Planning Policy 5.22

## **STORMWATER QUANTITY CALCULATION**

<b>Site Attribute</b>	<b>Design Consideration</b>
Hardstand Area (runoff coef. = 0.9)	2.45ha
Infiltration rate	1m/day (assumed)
Soils	Silty Sand (Pindan)
Groundwater Levels	N/A
Hardstand Levels	25.0m – 23.0m
Clearance from Building FFL to Weir Overflow RL	2.0m
Design Storm events & rainfall intensity	1% AEP, 24 hour – 16.9mm/hr 1% AEP, 30 minute – 158mm/hr
Time of Concentration	12 minutes
Pre-development	0.8376 Run-off Coefficient (1% AEP) 1% AEP, 24hr discharge: 96.2 L/s 1% AEP, 30min discharge: 899 L/s
Storage & Outflow Volumes	1% AEP, 24 hour Run-off: 8,931m <sup>3</sup> Soakage Volume: 130m <sup>3</sup> Pipe Outflow Volume: 8,311m <sup>3</sup> (96.2 L/s) Storage Volume Provided: 538m <sup>3</sup>  1% AEP, 30 minute Run-off: 1,739m <sup>3</sup> Pipe Outflow Volume: 173m <sup>3</sup> (96.2 L/s) Weir Outflow Volume: 1,028m <sup>3</sup> (870 L/s max) Storage Volume Provided: 538m <sup>3</sup>
Swale Dimensions	130m Length 1m Base Width 1:4 Side Slopes 0.9m Depth

A copy of the calculation summary table is presented in *Attachment B*.

## **PROPOSED STORMWATER LAYOUT**

Stormwater runoff from hardstand and building roof areas will be conveyed to the storage swale via overland flow paths, cut-off swales and a pipe to connect the two swales. Discharge from the storage swale will flow south to the existing swale in Chile Creek Road as per the pre-development scenario. Refer to *Attachment C* for the concept stormwater management plan.

### *Storage & Outlet Design*

In order to achieve the required storage volume, storage swale will be constructed with low flow discharge pipes and overflow rock pitched weirs. Final positioning of the swale and outlet structures will be confirmed at detailed design stage. Bund batters shall be stabilised with an open structure geofabric material which will stabilise the batters whilst allowing native vegetation to establish.

### *Overflow Design*

The storage volume provided will contain the 24 hour 1% AEP event with outflow via the low flow discharge pipes only. Higher intensity events will result in discharge via the rock pitched weir outfalls. Building FFL shall be set at approximately 2.0m above weir overflow levels.

### *Hardstand Design*

Hardstand levels including access roads and car park area shall be designed to match existing site levels as close as possible in order to minimise earthworks and clearing extents.

It is expected that a minor volume of imported fill may be required to achieve the required pavement and building levels.

### *Maintenance*

Sediments from the hardstand will flow into the swale base area. The silts will cause a reduction in infiltration in the swale base over time. Therefore, a maintenance plan outlining the clear-out of the storage swale base periodically should be put in place. A maintenance schedule shall be provided as part of the as constructed documentation from the contractor.

### **CONCLUSION**

There are no drainage constraints that prohibit this site from being developed as a solar power generation facility.

The following works are recommended to progress to detailed design stage:

1. Confirm suitable geofabric material and native grasses and vegetation for scour protection and bund stabilisation.
2. Bulk earthworks design to confirm hardstand and swale levels.
3. Review and confirmation of proposed stormwater drainage system and outlets.

Yours faithfully,



**JARRYD TREACY**  
**SENIOR CIVIL ENGINEER**

Enc.

**ATTACHMENT A – CONCEPT DEVELOPMENT LAYOUT**

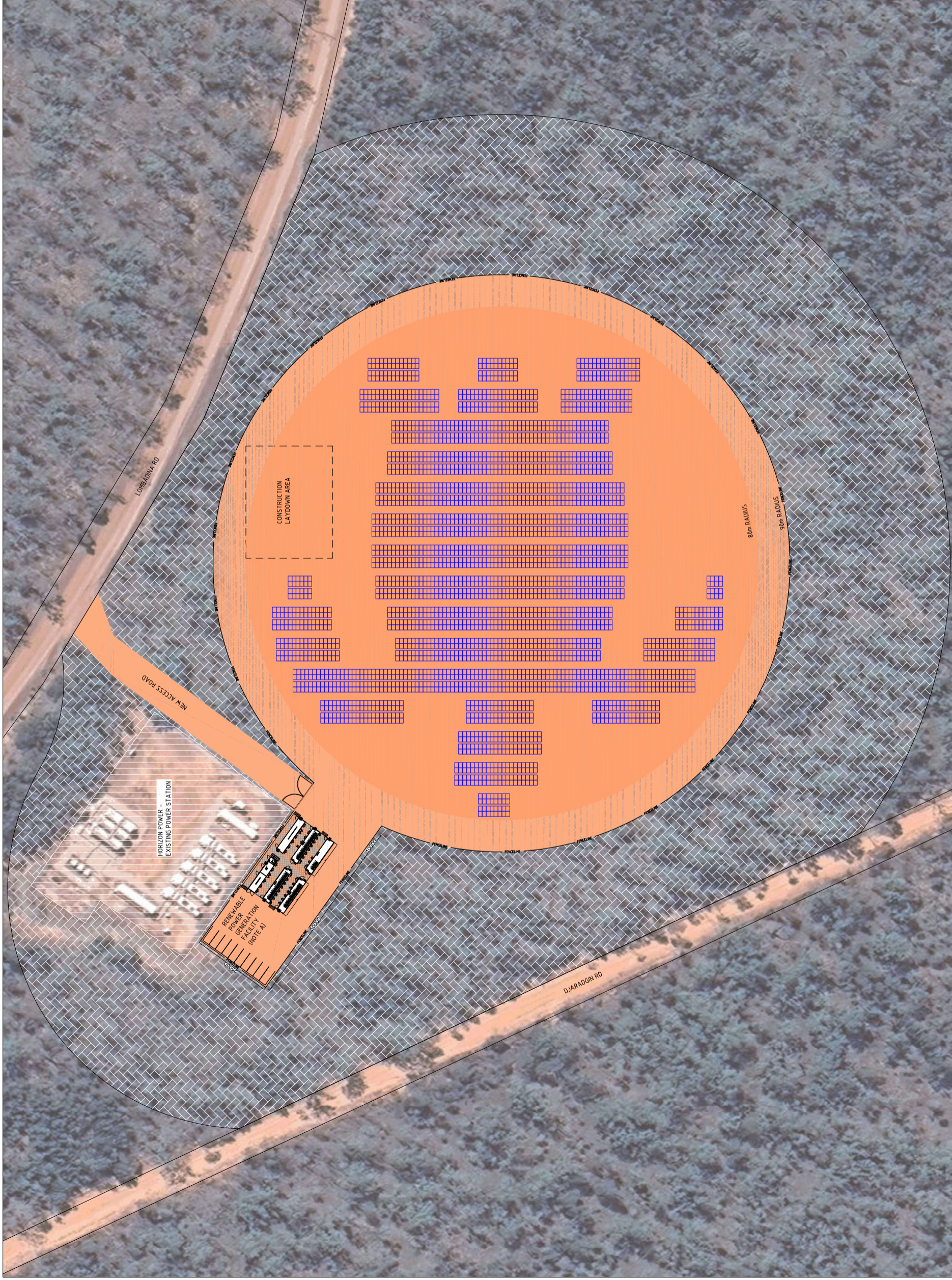
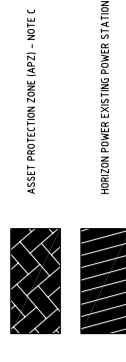
**GENERAL NOTES:**

1. THIS DRAWING REPRESENTS A PRELIMINARY DESIGN STATUS AT APPROXIMATELY 15% COMPLETION AND HAS BEEN PREPARED FOR THE PURPOSE OF RESPONDING TO HORIZON POWER RFP 195888Z.
2. THIS DRAWING IS ISSUED FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION, CONSTRUCTION OR DETAILED PRICING.
3. ALL EQUIPMENT CONFIGURATIONS AND LAYOUTS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO CHANGE DURING THE DETAILED DESIGN AND PROCUREMENT PHASES OF THE PROJECT.
4. THIS DESIGN IS BASED ON PRELIMINARY ASSUMPTIONS AND IS SUBJECT TO INPUTS FROM SPECIALIST CONSULTANTS YET TO BE ENGAGED, INCLUDING BUT NOT LIMITED TO STRUCTURAL, CIVIL, GEOTECHNICAL, SCADA, I.T, BUSHFIRE AND FIRE SAFETY ENGINEERS. DRAWINGS DO NOT REPRESENT A COORDINATED MULTI-DISCIPLINARY DESIGN AND SHOULD BE CONSIDERED CONCEPTUAL ONLY.
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7. SCADA, RTU, PLC AND METERING DETAILS SHOWN ARE PRELIMINARY AND SUBJECT TO HORIZON POWER OF COMPLIANCE STANDARDS. CONTROL SYSTEM ARCHITECTURE INCLUDING INVERTER DISPATCH LOGIC, BESS ARCHITECTURE AND BATTERY MANAGEMENT SYSTEMS ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH HORIZON POWER DURING DETAILED DESIGN.
8. DRAWINGS DO NOT REPRESENT FINAL CONTROL OR PROTECTION SCHEMES SETTINGS AND TOPOLOGIES WILL BE DEVELOPED DURING THE DETAILED ENGINEERING PHASE IN ACCORDANCE WITH HORIZON POWER TECHNICAL RULES.
9. LIGHTNING AND SURGE PROTECTION IS INDICATIVE ONLY. FINAL SYSTEM DESIGN TO BE COMPLETED BASED ON AS/NZS 1788 RISK ASSESSMENT AND SITE CONDITIONS.
10. FINAL PLANT LAYOUT IS SUBJECT TO LAND SURVEY, TOPOGRAPHIC CONSTRAINTS, HERITAGE CONSIDERATIONS, AND ENVIRONMENTAL APPROVALS.
11. FIRE SEPARATION, CONTAMINANT STRATEGIES AND SET BACKS TO BE COMPLETED FOLLOWING CONSULTATION WITH FIRE ENGINEER AND BUSHFIRE CONSULTANT.
12. ALL CABLE ROUTING, CONDUIT PATHWAYS AND TRENCHING DETAILS SHOWN ARE PRELIMINARY ONLY AND SHALL BE DEVELOPED IN CONJUNCTION WITH GEOTECHNICAL RESULTS AND STRUCTURAL / CIVIL DESIGN COORDINATION.
13. SWITCHBOARD DIMENSIONS, RATINGS, IP CLASSIFICATIONS AND INTERNAL ARRANGEMENTS ARE PLACEHOLDERS ONLY. FINAL MANUFACTURER SHOP DRAWINGS TO BE SUBMITTED DURING DETAILED DESIGN.
14. NOMINATED SUPPLY CONNECTION POINT TO HORIZON POWER INFRASTRUCTURE IS INDICATIVE AND SUBJECT TO FINAL CONFIRMATION AND COMPLIANCE REVIEW.

**SPECIFIC NOTES:**

- A. REFER TO THE DRAWING DAC-RPG-SGA-002 FOR RENEWABLE POWER GENERATION FACILITY DETAILS.
- B. REFER TO THE DRAWING DAC-RPG-LAY-001 FOR GROUND-MOUNT PV LAYOUT DETAILS.
- C. THE DESIGNATED ASSET PROTECTION ZONE (APZ) HAS BEEN DETERMINED BASED ON A PRELIMINARY HIGH-LEVEL ASSESSMENT.

**LEGENDS:**



SITE GENERAL ARRANGEMENT  
SCALE 1:500



**PRELIMINARY**

DRAWING TITLE:		SITE GENERAL ARRANGEMENT	
DRAWING NUMBER:	DAC-RPG-SGA-001	REV:	A
SCALE:	1 : 1	SHEET:	6 OF 14
		SIZE:	A1

**DJARINDJIN ABORIGINAL CORPORATION**  
FUTURE ENERGY SYSTEM – AALGA GOOLIL PROJECT  
NEW RENEWABLE POWER GENERATION FACILITY



**AMBORANJ POWER**



REVISIONS

REV	DATE	ISSUE FOR REVIEW	REVISION DESCRIPTION	DRN	CHKD	APP'D
A	23.04.25	ISSUE FOR REVIEW		SB	AM	MP

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**ATTACHMENT B – CONCEPT STORMWATER CALCULATIONS**

Project  
Job Number

Aalga Goolili Solar  
25-08-114

Date  
Engineer  
Summary  
Scenario

29/10/2025  
Jarryd Treacy

File Name  
Revision

T151.25  
A

Reference Document

Aalga Goolili Solar Facility - Civil Stormwater Concept.pdf

IFD Used  
Ground Conditions  
Groundwater

Djarindjin IFD (Latitude:-16.5192, Longitude: 122.9032)  
Silt Sand (Pindan) 0.5m/d - 1.5m/d infiltration  
Low, not expected to be encountered

	6 minute	30 minute	1 hour	3 hour	6 hour	12 hour
1 EY (1 year)	120	67.60	43.80	31.30	24.45	20.00
0.2 EY (5 year)	179.00	101.00	66.80	49.00	38.00	31.00
10% AEP (10 Year)	280.00	158.00	106.00	77.40	60.00	50.00
1% AEP (100 Year)	538.00	313.80	227.20	179.40	140.00	119.00

**Swale Details (Sized for 1% AEP)**  
 Length (m) = 130.000  
 Width (m) = 1.000  
 Height (m) = 0.900  
 Side Slopes = 1: 4.000 to pavement  
 Freeboard (m) = 0.300  
 TWL = 23.200 m  
 Base RL = 22.00 m  
 Base Area (m<sup>2</sup>) = 130.0  
 Swale cross section (m<sup>2</sup>) = 4.1  
 Volume (m<sup>3</sup>) = 538.2

**Low Flow Pipe Outflow**  
 Pipe 1 Diameter (mm) = 150  
 Pipe 1 Grade (1:?) = 200  
 Pipe 1 Capacity (l/s) = 10.7  
 No. Pipes = 9  
 Total Pipe Outflow (L/s) = 96.2

**Weir Overflow - Max Flow**  
 Critical event = 1% AEP, 30min  
 Weir overflow = Inflow - Pipe outflow  
 Weir overflow = 870 L/s

**Catchment Details**  
 Area (ha) = 2.445  
 Co-efficient of Runoff = 0.90 (Gravel Hardstand)

**Pre-Development**  
 Run-off Coefficient (Cp) = m(0.0133 x 10160 - 0.233)  
 m = 1.2 (100yr ARI)  
 10160 = 77.4mm/hr (Max 70)  
 Cp = 0.8376  
 ToC = 12 minutes

**Weir Overflow - 1% AEP, 30min**  
 Weir Length (m) = 1.5  
 Weir height (mm) = 200  
 Weir Capacity (l/s) = 238  
 No. Weirs = 4  
 Total Weir Outflow (L/s) = 952.0

1% AEP Allowable Discharge (L/s)

6 minute	1593.8
30 minute	899.3
1 hour	603.4
3 hour	306.8
6 hour	204.3
12 hour	139.5
24 hour	96.2

<- Low flow outflow

Event	1EY (1 Year)						0.2 EY (5 Year)						10% AEP (10 Year)						1% AEP (100 Year)											
	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour
Intensities	120.0	67.6	43.8	31.3	24.45	20.0	179.0	101.0	66.8	49.0	38.0	31.0	280.0	158.0	106.0	77.4	60.0	50.0	280.0	158.0	106.0	77.4	60.0	50.0	280.0	158.0	106.0	77.4	60.0	50.0
Inflow Q (m <sup>3</sup> /s)	0.7339	0.4135	0.2679	0.187	0.0697	0.0419	1.0948	0.6177	0.4086	0.1914	0.1168	0.0728	1.2599	0.7095	0.4734	0.2263	0.1407	0.0899	1.7125	0.9663	0.6483	0.3297	0.2196	0.1498	0.1034	0.0000	0.0000	0.0000	0.0000	0.0000
Volume Req'd (m <sup>3</sup> )	264	744	964	1281	1506	1810	394	1112	1471	2067	2523	3144	454	1277	1704	2444	3038	3884	617	1739	2334	3560	4743	6473	8931	0	0	0	0	
Pipe Outflow (L/s)	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	
Weir Outflow Ave (L/s)	0.0	17.8	21.7	0.0	0.0	0.0	0.0	222.0	162.4	44.9	0.0	0.0	0.0	313.8	227.2	79.8	19.1	0.0	120.8	570.6	402.1	183.1	98.0	40.7	0.0	0.0	0.0	0.0	0.0	
Outflow Volume (m <sup>3</sup> )	35	205	424	1039	2078	4156	35	573	931	1524	2078	5913	35	738	1164	1900	2489	4156	78	1200	1794	3017	4194	5913	8311	0	0	0	0	
Swale Vol	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	538	
Swale Soak	0.54	2.71	5.42	16.25	32.50	65.00	0.54	2.71	5.42	16.25	32.50	65.00	0.54	2.71	5.42	16.25	32.50	65.00	0.54	2.71	5.42	16.25	32.50	65.00	130.00	390.00	0	0	0	
Swale Total	539	541	544	554	571	603	539	541	544	554	571	603	539	541	544	554	571	603	539	541	544	554	571	603	668	928	0	0	0	
Total Vol	573	746	968	1593	2649	4759	573	1114	1474	2078	2649	6517	573	1279	1708	2455	3060	4759	617	1741	2338	3571	4764	6517	8980	928	0	0	0	



**ATTACHMENT C – CONCEPT STORMWATER DESIGN**

**Drainage Summary Table**

The on site stormwater system has been designed to detain the 1% AEP event and attenuate at pre-development flows, in accordance with Shire of Broome requirements.

**Site Details**

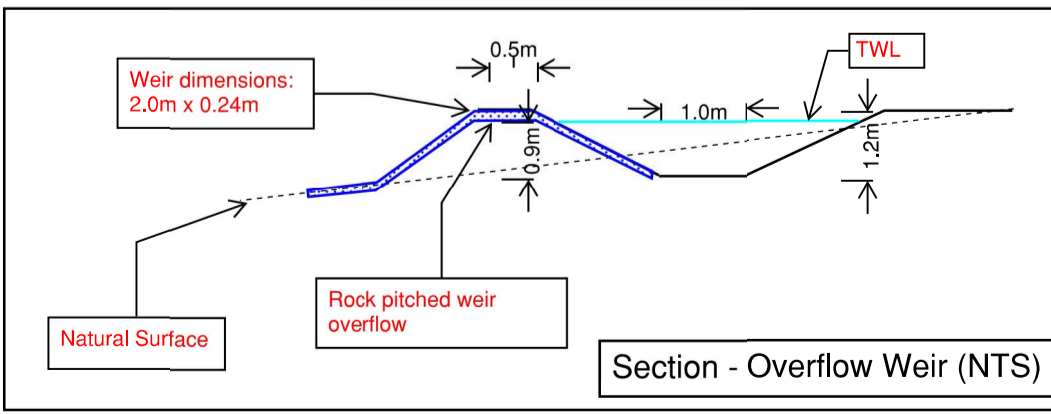
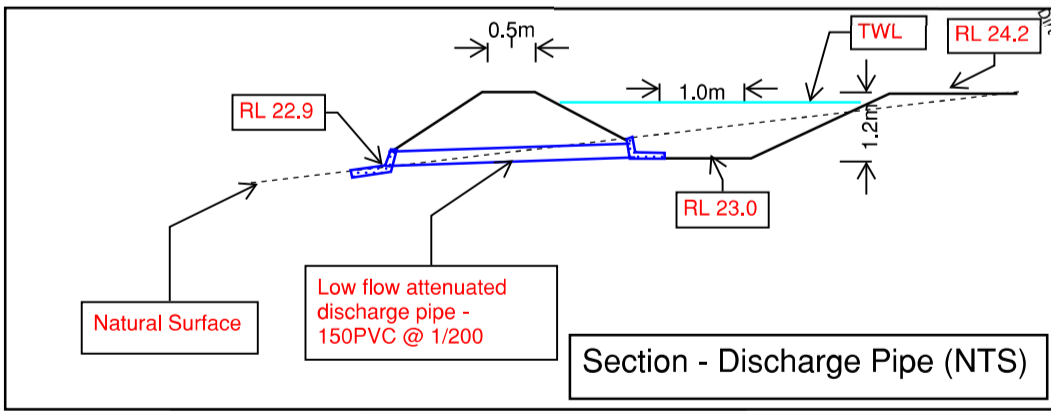
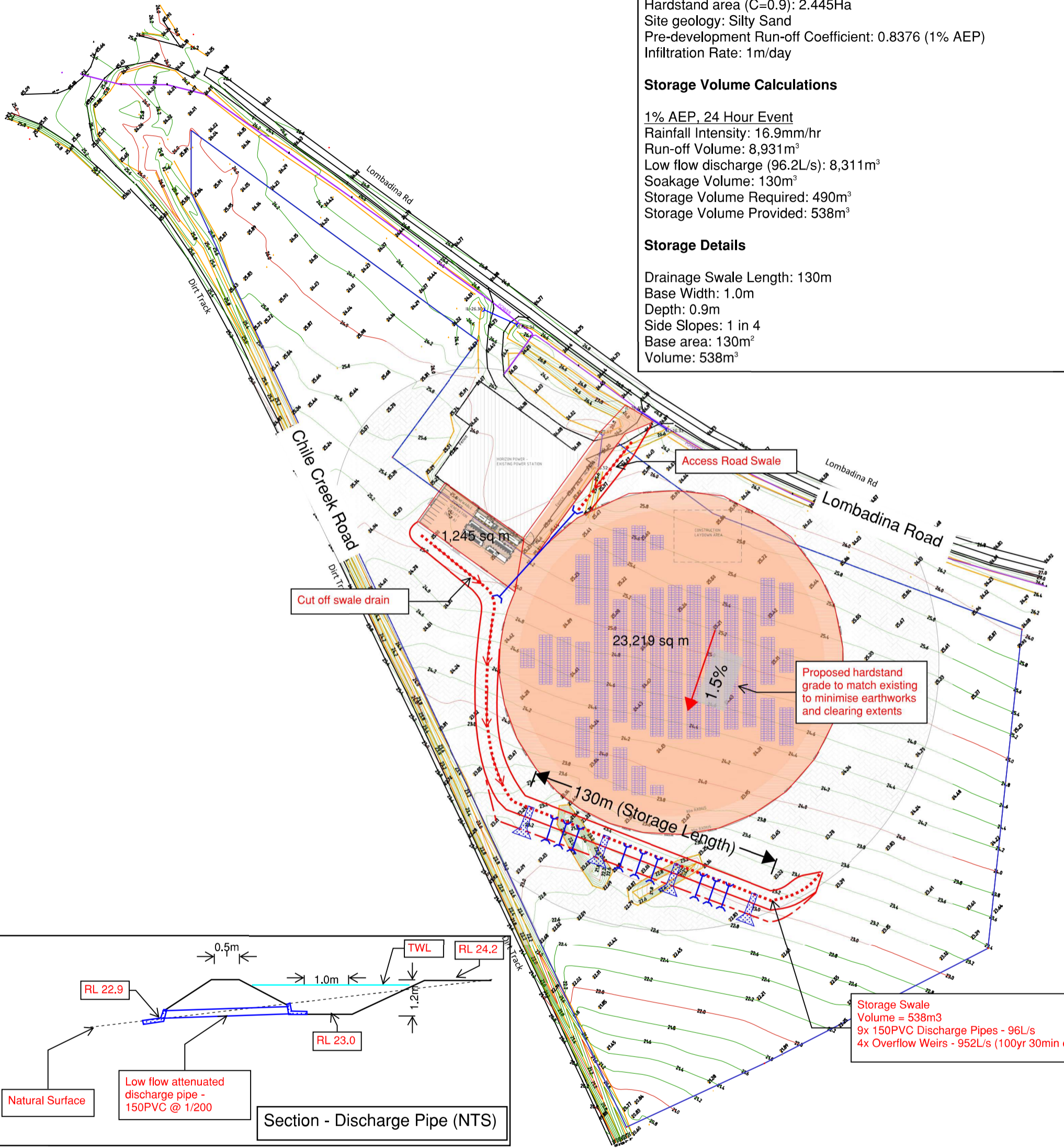
Hardstand area (C=0.9): 2.445Ha  
 Site geology: Silty Sand  
 Pre-development Run-off Coefficient: 0.8376 (1% AEP)  
 Infiltration Rate: 1m/day

**Storage Volume Calculations**

1% AEP, 24 Hour Event  
 Rainfall Intensity: 16.9mm/hr  
 Run-off Volume: 8,931m<sup>3</sup>  
 Low flow discharge (96.2L/s): 8,311m<sup>3</sup>  
 Soakage Volume: 130m<sup>3</sup>  
 Storage Volume Required: 490m<sup>3</sup>  
 Storage Volume Provided: 538m<sup>3</sup>

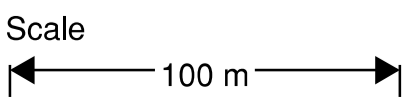
**Storage Details**

Drainage Swale Length: 130m  
 Base Width: 1.0m  
 Depth: 0.9m  
 Side Slopes: 1 in 4  
 Base area: 130m<sup>2</sup>  
 Volume: 538m<sup>3</sup>



Storage Swale  
 Volume = 538m<sup>3</sup>  
 9x 150PVC Discharge Pipes - 96L/s  
 4x Overflow Weirs - 952L/s (100yr 30min event)

Note:  
 -Base of Swale Planted with Native Grasses  
 -Swale Batters Planted with Native Vegetation  
 -Bund to be stabilised with geofabric material





**Appendix G: Environmental – Clearing Permit Documentation**



WESTERN  
ENVIRONMENTAL

## **Aalga Goolil Djarindjin Community Power Project**

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Native Vegetation Clearing Permit  
Supporting Document

**Western Environmental Pty Ltd**

(08) 6162 8980

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[westenv.com.au](http://westenv.com.au)



WESTERN  
ENVIRONMENTAL

# Aalga Goolil Djarindjin Community Power Project

Native Vegetation Clearing Permit  
Supporting Document

**Report No:**

A25.029-RPT-NVCP\_1

**Issue Date:**

1-Dec-2025

**Status**

FINAL

**Prepared for:**

RFF Australia Pty Ltd  
PO Box 88  
Karratha WA 6714




**Prepared by**

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**WESTERN**  
ENVIRONMENTAL

## Internal Review

Author	Reviewed by	Approved by
		
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### **Environmental Conclusions**

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Appendix A	GHD (2023) Flora and Vegetation Survey
Appendix B	GHD (2021) Flora and Vegetation Survey
Appendix C	WEPL (2025) Fauna Survey Report
Appendix D	Flora Desktop Assessment and Likelihood of Occurrence
Appendix E	Fauna Desktop Assessment and Likelihood of Occurrence

---

# 1. Introduction

## 1.1 Background

Western Environmental Approvals Pty Ltd (WEPL) presents this document to support a Native Vegetation Clearing Permit (NVCP) for the proposed Aalga Goolil Djarindjin Community Power Project (the Project) within Lot 297 on Deposited Plan 93256 (the Site). The Site is located adjacent to the Djarindjin Community, at the intersection of Djarindjin Lombadina Road and Chile Creek Road in the Dampier Peninsula (Figure 1). Djarindjin Aboriginal Corporation (DAC) is the leaseholder of the land on which the Project will be developed. DAC has established a wholly-owned subsidiary, Aalga Goolil Djarindjin Community Power Pty Ltd, to develop and own the Project.

### 1.1.1 Clearing Overview

The Project involves the construction of a renewable energy facility comprising 1.6 MWp solar photovoltaic (PV) and 3.52 MWh battery energy storage system (BESS) meeting around 80% of the load on the Djarindjin Lombadina Microgrid. Adjacent to the Project Site, a diesel facility at the existing power station will supply the balance of the load. DAC has incorporated a subsidiary to develop and own the proposed power station (Aalga Goolil Power Station), with generated electricity to be sold to Hoirizon Power under a Power Purchase Agreement (PPA). Clearing for the purpose of bushfire mitigation in the form of an Asset Protection Zone (APZ) will be required within the Site boundary, to enable the Project. A Bushfire Management Plan (BMP) has been prepared for the Project based on an assessment undertaken in September 2025 to inform the extent of required clearing for bushfire mitigation.

The total area of permanent clearing is 7.54 ha, which includes clearing for construction and the establishment of APZs for bushfire risk mitigation.

### 1.1.2 Purpose

The Project requires an NVCP (Area Permit) to authorise the removal of vegetation. This document provides the supporting documentation to facilitate the NVCP application under Part V of the *Environmental Protection Act 1986* (EP Act).

To support the NVCP application, the following biological surveys and approval documents have been undertaken within the Site:

- Flora and vegetation survey (Detailed and Targeted post-wet season) and basic fauna survey (GHD, 2023).
- Flora and vegetation survey (Detailed and Targeted post-wet season) and basic fauna survey (GHD, 2021).
- Desktop Due diligence assessment (WEPL, 2025a).

- Basic fauna survey and targeted surveys for bilby and northern brushtail possum (WEPL, 2025b).

In addition, this NVCP supporting document provides:

- An overview of the existing physical environmental conditions of the Site.
- An evaluation of the environmental impacts associated with the Project.
- Evidence of avoidance of clearing through site selection and design, reduction of impacts to better quality vegetation or larger populations of Priority flora, and mitigation of impacts during clearing and construction through application of management plans.
- An assessment against the Ten Clearing Principles for proposed clearing within Site.

In addition to immediate impacts to native vegetation, the project planning process has considered broader impacts and approvals with complementary activities and approvals processes underway including:

- A Heritage Due Diligence Assessment undertaken by RFF.
- Engagement with key stakeholder groups in progressing designs.
- Lodgement of Development Application with Shire of Broome.
- A Glint and Glare Assessment to assess any potential visual impacts resulting from the proposed development.
- A Geotechnical investigation and stormwater monitoring to assess potential topography and groundwater constraints.
- Preparation of a Construction Environmental Management Plan (CEMP) to outline high level mitigation measures that will be implemented to incorporate suitable controls to manage the risk to environmental during both construction and operation.
- Preparation of a Bushfire Management Plan (BMP).

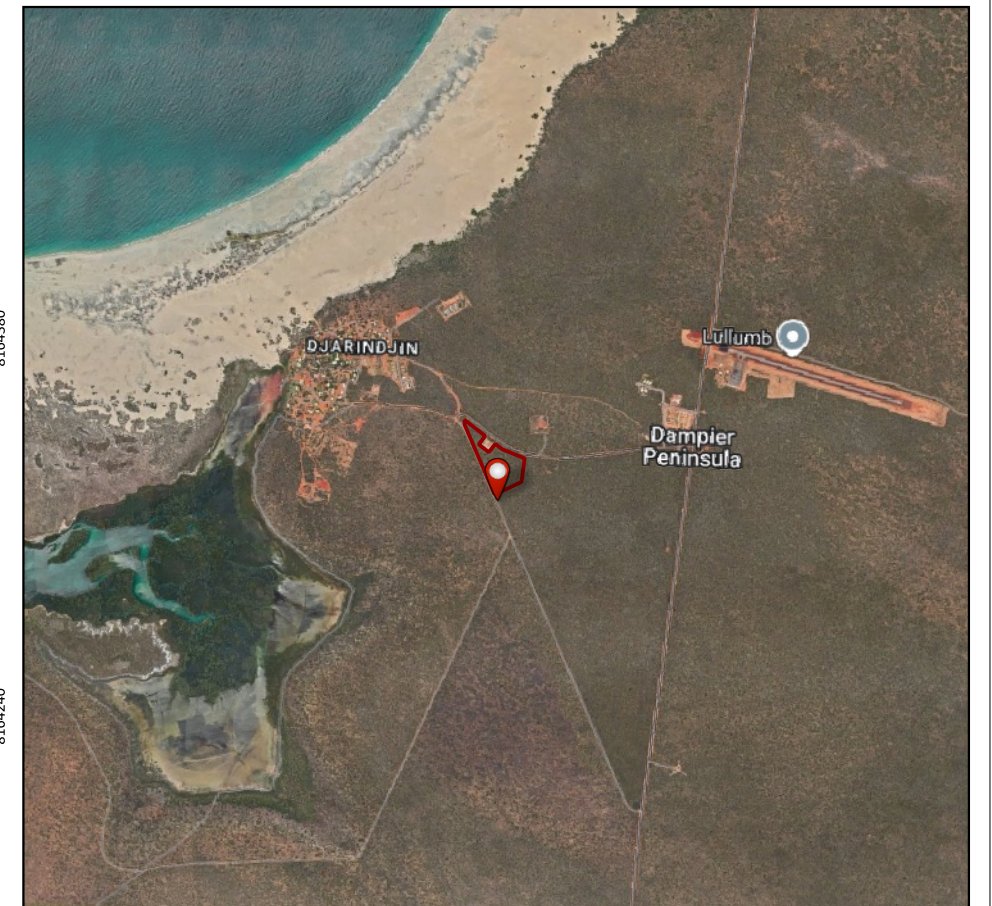
## 1.2 Site Location and Ownership

The Site is located Djarindjin Lombadina Road and Chile Creek Road in the Dampier Peninsula within the Shire of Broome, approximately 174 km north of Broome Townsite.

The Site is currently zoned as 'Settlement (Broome)' under the Shire of Broome Local Planning Scheme No. 7 (LPS 7). It is also located within Special Control Area (SCA) 8 – Aboriginal communities. As per mapping managed by Western Australian Planning Commission (WAPC), the Site is included within the Djarindjin Aboriginal Settlement Layout Plan No. 3 (Layout Plan No. 3) and is zoned as 'Public utility (Power Station)', 'Residential' and 'Open Space' (WAPC, 2008). The Site also includes Lots 1039 and 1040 on Djarindjin

Lombadina Road, as identified within Layout Plan No. 3. These lots form part of Lot 297 on Deposited Plan 93256. The zoning of the Site has been the subject of a recently approved amendment to Layout Plan 3, such that the entirety of Lot 1039 is now zoned Public Utility and previous Open Space within the Site has been rezoned Public Utility, such that all areas within the Site (Lots 1040 and amended Lot 1039) are zoned Public Utility.

DAC are the leaseholder for the above crown lease, which expires on 30 June 2041. Special Lease 3116/10633 under Section 116 of the *Land Act 1933* grants DAC the land for special purpose of 'use and benefit of Aboriginal inhabitants'. This Special Lease is subject to 12 conditions, with a term of 50 years from 1 July 1991 (WAPC, 2008).



**Figure 1: Clearing Boundary**

		<p>PROJECT/REPORT NAME Djarindjin-Aalga Goolil Solar Project - Native Vegetation Clearing Permit</p> <p>Djarindjin Community, Dampier Peninsula</p>	<p><b>Legend</b></p> <p> Site boundary</p> <p> Cadastre (No Attributes) (LGATE-001)</p>
SCALE 1:2,800	SHEET SIZE A3 COLOUR	CLIENT RFF Pty Ltd	
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 50		PROJECT NUMBER A25.029	VERSION 0
DATA SOURCE LANDGATE AERIAL IMAGERY NOW		DRAWN BY / REVIEWED BY JP/LT	DATE 3/12/2025

No	Description	Drawn	Approved	Date
A	Original issue	JP	LT	3/12/2025

NOTES:

Cadastral boundary (LGATE-002). Base map ESRI Topo. Townsites (LGATE-248).

**WESTERN ENVIRONMENTAL**

Western Environmental Pty Ltd  
08 6344 2310 | enquiries@western.com.au  
Level 3/25 Prowe St, West Perth WA 6005  
western.com.au

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## 2. Existing Environment

### 2.1 Climate

The climate of the central Kimberley region is tropical monsoonal with a warm, dry season (April to November) and a wet season (December to March) (as sited in GHD, 2023). Rainfall is generally received during the summer as a result of unpredictable tropical downpours and cyclonic low pressure systems.

The closest Bureau of Meteorology (BoM) weather station with sufficient historical data is Cygnet Bay (site number 003057), located approximately 15 km north of the survey area. Climate data from this station indicates the mean maximum temperature ranges from 35.4 °C in November to 28.1°C in July. The mean minimum temperature ranges from 14.7 °C in July to 25.7 °C in December. The mean annual rainfall is 824.2 mm (BoM, 2025).

### 2.2 Biogeographic and Regional Setting

The survey area is located in the Dampierland bioregion and Pindanland sub-region as described by Interim Biogeographic Regionalisation of Australia (IBRA) and mapped by the Department of Climate Change, Energy, the Environment and Water (DCCEEW; 2021).

The Dampierland bioregion is characterised by extensive plains, ranges and spectacular gorges (GHD, 2023). The vegetation is characterised by acacia thickets with scattered trees and areas of grasslands and savannas. The bioregion contains Aboriginal land, pastoral leases and some conservation reserves. The main industries are beef cattle, horticulture and tourism. Major population centres are Broome, Derby and Fitzroy Crossing.

The Pindanland subregion comprises sandplains of the Dampier Peninsular and western part of Dampier Land, including the hinterland of the Eighty Mile Beach. It is a fine-textured sand-sheet with subdued dunes and includes the paleodelta of the Fitzroy River. The vegetation is described primarily as pindan. This is the coastal, semi-arid, north-western margin of the Canning Basin (as sited in GHD, 2023).

### 2.3 Geology, Land Systems and Soils

The Site is situated across one land system as mapped and described in by the Department of Primary Industries and Regional Development (DPIRD; Figure 2). This is the Yeeda System (335) which is described as red sandplains supporting pindan vegetation with dense acacia shrubs, scattered bloodwood and grey box trees and curly spinifex and ribbon grass (DPIRD-027). The geomorphology of the Site comprises sandplain and dunefields with little organised drainage; sandplain up to 16 km in extent, with shallow valleys, plains with thin sand cover, and scattered pans; limited surface drainage in zones of sheet-flow up to 3.2 km wide and extending up to 8 km downslope from adjacent uplands (Payne and Schoknecht, 2011).

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## 2.4 Acid Sulfate Soils

Acid Sulfate Soils (ASS) are naturally occurring, iron-sulphide rich soils, sediments or organic substrates formed under waterlogged conditions. If exposed to oxygen, these sulphides can oxidise and release sulphuric acid and mobilise heavy metals. This process can occur in response to drainage, dewatering or excavation.

The Australian Soil Resource Information System (ASRIS) ASS risk mapping indicates that there is a 'extremely low' risk of ASS occurring within the Site (Fitzpatrick, Powell and Marvanek, 2011). The nearest risk of ASS occurrence is an area with 'High' risk approximately 1 km north, associated with the coastline.

## 2.5 Hydrology

### 2.5.1 Groundwater

The Site is located within the Canning-Kimberley Proclaimed Groundwater Area, and Canning-Pender subarea (DWER-034). Total salinity across the Site is broadly mapped as <500 milligrams(mg)/litre(L) total dissolved solids (TDS) (DWER-026). Layout Plan No. 3 identifies a Drinking Water Source Protection Area located approximately 60 m north of the Site (DPLH-015).

The depth to the water table in the Canning-Pender subarea is 2-120 m. Groundwater resources of the Dampier Peninsula are generally showing no signs of adverse impacts from current use, however spatial and temporal distribution of groundwater bores across the peninsula provides large gaps in the data (Searle, 2012).

No groundwater mapping dataset is available for the Site.

### 2.5.2 Surface Water

The nearest mapped watercourse is a river located approximately 370 m south of the Site, which connects with the ocean to the west (WAPC, 2008; DPLH-015). The coastal waterline is located 2 km south-west of the Site.

The Site is located within the Cape Leveque Coast Surface Water Management Area (DWER-041). The Site is not situated in a floodplain control area according to mapping of 1 in 100 Annual Exceedance Probability (AEP) Floodway and Flood Fringe and Floodplain Areas (DWER-014).

Wetland mapping managed by the Department of Biodiversity, attractions and Conservation (DBCA) identifies that there are no important wetlands mapped within the Site (DBCA-010; DBCA-045).

---

## 2.6 Pre-European Vegetation

Beard (1990) characterises the area as vegetation association Dampierland (750), characterised by Pindan Woodland; *Acacia* thicket with eucalypt woodland over spinifex *Acacia tumida*, *Eucalyptus tectifica*, *Corymbia grandifolia*, *Triodia pungens*, *T. bitextura* (DPIRD-006).

Currently, approximately 99.5% of this vegetation association remains within the Shire of Broome. The proposed clearing represents 0.0007% of the remaining extent of the vegetation association within the Shire.

## 2.7 Environmentally Sensitive Areas

The Site intersects one Environmentally Sensitive Area (ESA) as mapped by DWER (DWER-046; Figure 3). From the DBCA Ecological Communities database search (DBCA, 2025a), it was identified that the ESA is associated with a State and Commonwealth listed Threatened Ecological Community (TEC); Monsoon (vine) thickets on the coastal sand dunes of Dampier Peninsula TEC (Vine Thickets TEC). The Site is located within 2 km of the Vine Thickets TEC.

## 2.8 Areas of Conservation Significance

The Site does not intersect any other mapped area of conservation significance (DBCA-011). The closest conservation area is 1.2 km southwest of the Site which is associated with a marine park.

The Site forms part of the West Kimberley National Heritage Place, which extends across the Dampier Peninsula.

As per the mapping on the Collaborative Australian Protected Areas Database (CAPAD), the Site is also located within the Bardi Jawi Indigenous Protection Area (IPA) (DCCEEW, 2022a). IPAs are areas of land and sea that Traditional Owners have agreed to manage for conservation, with the IPA program jointly managed by DCCEEW and the National Indigenous Australians Agency.

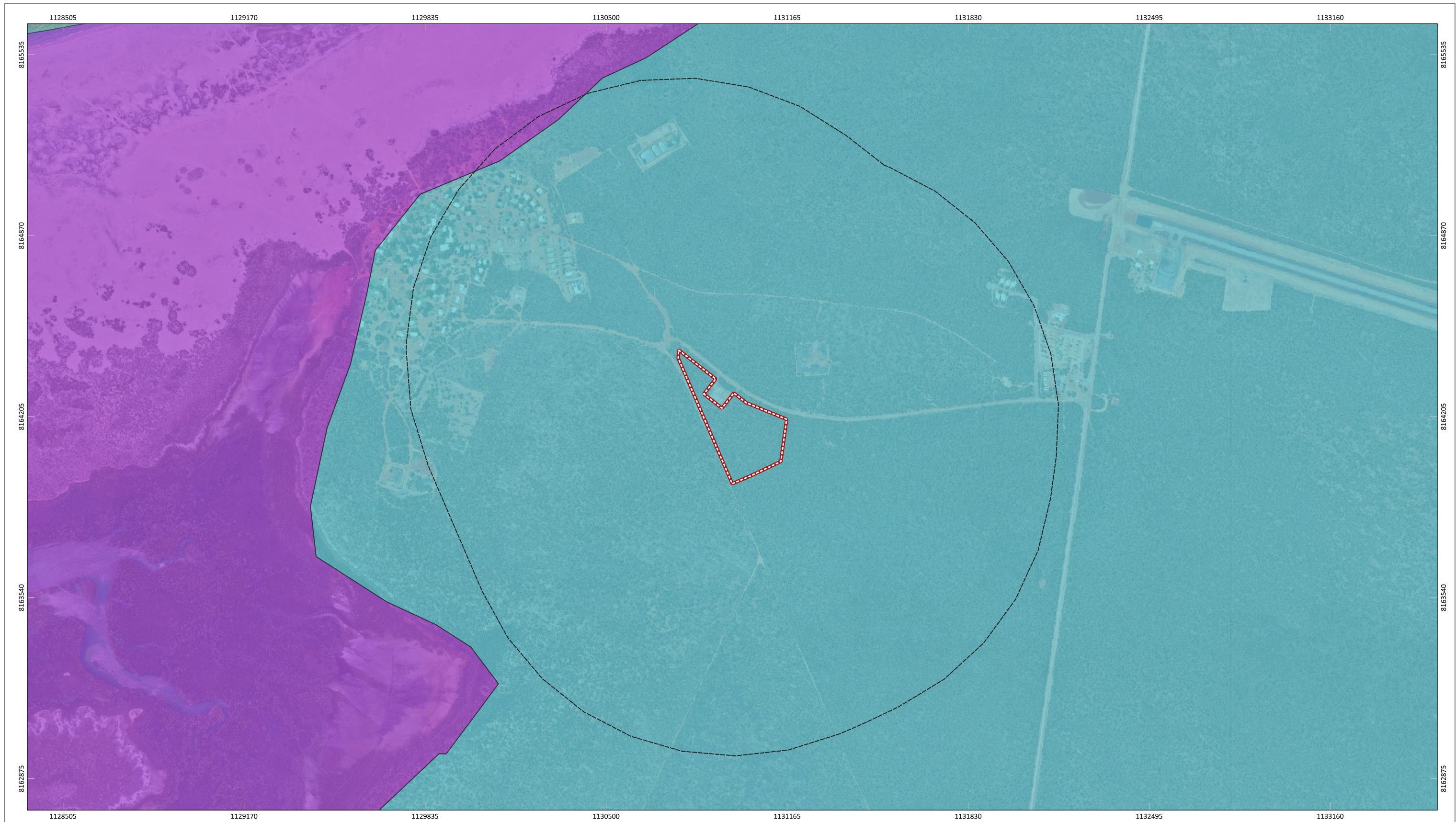
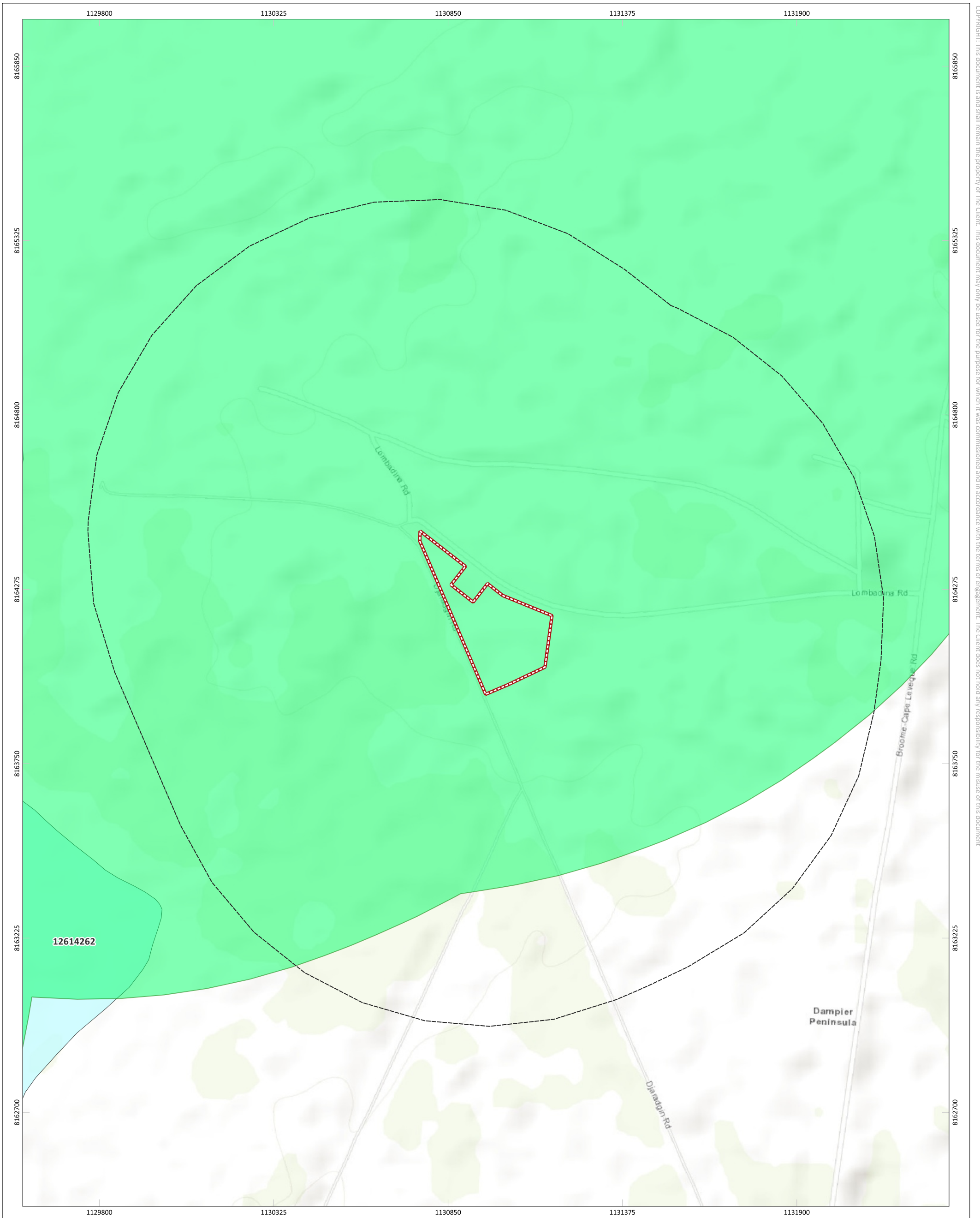


Figure 2: Soils and Topography

		PROJECT/REPORT NAME <b>Djarindjin-Aalga Goolil Solar Project - Native Vegetation Clearing Permit</b> Djarindjin Community, Dampier Peninsula		<b>Legend</b> Site boundary 1km Buffer <b>Soil Landscape Mapping - Best Available (DPIRD-027)</b> 335Cr_2 335Ye		<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>JP</td> <td>LT</td> <td>3/12/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		No	Description	Drawn	Approved	Date	A	Original issue	JP	LT	3/12/2025																				
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**Figure 3: Environmentally Sensitive Areas, Conservation Estate and Bush Forever**

	PROJECT/REPORT NAME <b>Djarindjin-Aalga Goolil Solar Project - Native Vegetation Clearing Permit</b> Djarindjin Community, Dampier Peninsula		<b>Legend</b> Site boundary 1km Buffer Clearing Regulations - Environmentally Sensitive Areas (DWER-046) DBCA - Legislated Lands and Waters (DBCA-011) Marine Park	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>JP</td> <td>LT</td> <td>3/12/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	JP	LT	3/12/2025																				
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DATA SOURCE ESRI Topographic Map	DRAWN BY / REVIEWED BY JP/LT	DATE 3/12/2025																																

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## 3. Biological Environment

### 3.1 Previous Surveys

Three recent biological surveys have been undertaken within the Site, including:

- Flora and vegetation survey (Detailed and Targeted post-wet season) and basic fauna survey (GHD, 2023) ( Appendix A).
- Flora and vegetation survey (Detailed and Targeted post-wet season) and basic fauna survey (GHD, 2021) ( Appendix B).
- Basic fauna survey and Targeted bilby and northern brushtail possum survey (WEPL, 2025b) ( Appendix C).

The surveys undertaken by GHD comprised of several individual survey sites, with one of them being a site in Djarindjin covering the same area on Lot 297 on Deposited Plan 93256 as the current Site.

### 3.2 Flora and Vegetation

#### 3.2.1 Desktop Assessment

The desktop assessment undertaken by GHD (2021; 2023) identified six conservation significant species listed as Priority by DBCA within a 20 km buffer of the Site. An updated likelihood of occurrence assessment undertaken for this clearing permit application confirmed that these species are all considered 'unlikely' to occur within the Site ( Appendix D).

An updated search of the DBCA flora database (07-0225FL) on 06 February 2025 indicated the following additional conservation significant species may be present within the Site or surrounding area:

- *Acacia monticola x tumida* var. *kulparn* - Priority 3.
- *Cupaniopsis anacardioides* - Priority 3.
- *Paranotis halfordii* - Priority 3.

These three additional species were all considered to have low likelihood of occurring within the Site due to known records being >30 years old and suitable habitat is not present (Appendix A).

One Threatened Ecological Community (TEC) and one Priority Ecological Community (PEC) was identified to occur within 20 km of the Site (GHD, 2021; 2023):

- Monsoon (vine) thickets on the coastal sand dunes of Dampier Peninsula TEC (Vine Thickets TEC) – Endangered (State and Commonwealth).

- Kimberley Association 37 –Priority 3.

Whilst the Site is within a buffer of the Vine Thickets TEC (as indicated by DBCA database records) there were no TECs or PECs identified during the 2021 survey (GHD, 2021). The TEC is not considered to occur within the Site as the landform for the TEC (coastal sand dunes) is not present. A subsequent single-season detailed flora and vegetation survey undertaken in 2023 by GHD also did not identify any TECs or PECs.

### 3.2.2 Flora

Field surveys undertaken by GHD in 2021 and 2023 identified a total of 47 native flora species within the Djarindjin area. Families best represented include Poaceae (7 species), Fabaceae (6 species) and Malvaceae (5 species). No flora species representing significant range extensions were recorded.

Three weed species were recorded. No declared pests or Weeds of National Significance were recorded by GHD. All introduced species identified during the survey had been previously recorded from the region and sub-region (GHD, 2021).

### 3.2.3 Conservation Significant Flora

GHD (2021; 2023) did not record any Threatened flora pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Biodiversity Conservation Act 2016* (BC Act), or Priority flora listed by DBCA, within the Site.

No conservation significant flora species were considered likely to occur (GHD, 2021; 2023).

### 3.2.4 Vegetation

GHD (2021) confirmed during their field survey that one vegetation type was present within the Site (excluding cleared areas):

- VT04 - *Eucalyptus miniata* and *Corymbia greeniana* woodland to isolated clumps of trees on Pindan red sand loam on low plain.

GHD assessed the entirety of the vegetation within the Site to be in Very Good condition (Figure 4).

No TECs or PECs were identified within the Site during both surveys undertaken by GHD (2021; 2023).



Figure 4: Vegetation Type and Condition

	PROJECT/REPORT NAME Djarindjin-Aalga Goolil Solar Project - Native Vegetation Clearing Permit Djarindjin Community, Dampier Peninsula		<b>Legend</b> Site boundary <b>Vegetation Type</b> VT04 - Eucalyptus miniata and Corymbia greeniana woodland to isolated clumps of trees on Pindan red sand loam on low plain (GHD, 2023) <b>Vegetation Condition</b> VG - Very Good	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>JP</td> <td>LT</td> <td>3/12/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	JP	LT	3/12/2025																				
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### 3.3 Terrestrial Fauna

#### 3.3.1 Fauna assemblage

A total of 44 fauna species were recorded within the Site (GHD, 2021; 2023; WEPL, 2025). This total comprised 33 birds, five mammal and six reptile species. Four introduced species (dog, cat, cow and donkey) were recorded in the GHD survey (2021) and are included in this total.

#### 3.3.2 Conservation Significant Fauna

No BC Act or EPBC Act listed Threatened fauna or Priority listed fauna by the DBCA were recorded during the GHD surveys (2021; 2023) or by WEPL (2025).

An updated PMST search on 08 August 2025 (DCCEE, 2022b) and DBCA fauna database search (48-0125FA) on 31/1/2025 indicated that 11 additional conservation significant fauna species may be present within 20 km of the Site. This included the Northern Blue-tongued Skink, which was recorded within the peninsula during the GHD (2023) survey, however was listed in December 2023 after the GHD (2023) report was completed. An updated likelihood of occurrence assessment was undertaken by WEPL (2025b) to include these additional species and can be found in Appendix E. The assessment identified that seven conservation significant species, listed in Table 1, have a post-survey high or medium likelihood of occurring within the Site.

**Table 1: Conservation Significant Fauna Species with High or Medium Likelihood of Occurring**

Scientific Name	Common Name	BC Act	EPBC Act	WEPL Likelihood of Occurrence	Justification
<i>Erythrura gouldiae</i>	Gouldian Finch	P4	EN	High	Species not recorded within Survey Area, however very likely to occur as habitat is suitable.
<i>Falco peregrinus</i>	Peregrine Falcon	OS		High	Common and widespread bird species, may perch and forage within the Site.
<i>Lerista separanda</i>	Dampier plain slider	P2	-	Medium	Species is a sand dune specialist, no habitat present within Survey Area
<i>Ozimops cobourgianus</i>	Northern coastal free-tailed bat	P1	-	Medium	Species confined to mangroves, non-present within Survey Area, mangroves occur within 1 km of Survey Area, so species may be occasional flythrough
<i>Simoselaps minimus</i>	Dampier burrowing snake	P2	-	Medium	Species is a sand dune specialist, no habitat present within Survey Area
<i>Tiliqua scincoides intermedia</i>	Northern Blue-tongued Skink	CR	CR	High	Species is widespread and has been known to associate with man-made structure (present near or in the Site, although no evidence recorded in Survey, cannot discount potential presence in large area of connected habitat).

Scientific Name	Common Name	BC Act	EPBC Act	WEPL Likelihood of Occurrence	Justification
<i>Macrotis lagotis</i>	Greater Bilby, Dalgyte, Ninu	VU	VU	Medium	Presence not detected during Survey but has been recorded in habitat contiguous with the Site.
<i>Trichosurus vulpecula arnhemensis</i>	Northern Brushtail Possum	VU	VU	Medium	Appropriate habitat present within the Site, reasonably dense <i>Eucalyptus</i> and <i>Corymbia</i> woodland with sparse tree hollows, none detected during Survey.

For possibly occurring conservation listed fauna species, habitat types are assessed as either core, supporting or non-significant habitat. As per Commonwealth *Matters of National Environmental Significance (MNES) – Significant Impact Guidelines 1.1* “core” habitat is defined as that critical to the survival of the species and considered to contain denning/ breeding sites, primary foraging areas and refuge from drought, fire and other stresses (DotE, 2013). “Supporting” habitat is defined as that which is likely used for foraging and dispersing/ connective purposes but is not essential habitat for the continuation of a local population. “Non-significant” habitat is that which would be used only very infrequently for foraging or dispersing.

It was considered unlikely that the Site provided core habitat for any species beyond temporary refuge and dispersal. The Greater Bilby was considered to have medium likelihood to occur within the Site given the presence of suitable habitat and records throughout the local and regional area, however none of the surveys undertaken within the Site has recorded Bilby presence (GHD, 2021; 2023; WEPL, 2025). The Site was considered potential burrowing habitat, however proximity to Djaridjin Community was considered to potentially impact on species presence and distribution within the Site.

### 3.3.3 Fauna Habitat

One fauna habitat type was identified within the Site (GHD, 2023; Figure 5) described as:

- *Eucalyptus* and *Corymbia* on Pindan red sand.

The fauna habitat tended to occur on well-draining porous sandy soil. The condition was considered generally very good to excellent condition and represented high value habitat, with some evidence of disturbance from infrequent fire, edge effects of weeds from adjacent tracks and clearings, and dumped rubbish.

The habitat is considered extensive and widespread in the surrounding bioregion and provides foraging and nesting habitat for a diverse range of insectivorous, nectar and granivore bird species, including foraging habitat for the Gouldian Finch (*Erythrura gouldiae*) and foraging and nesting habitat for the Peregrine Falcon (*Falco peregrinus*). A range of reptiles were also considered to utilise the habitat.

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**Figure 5: Fauna Habitat**



Figure 5: Fauna Habitat

	PROJECT/REPORT NAME Djarindjin-Aalga Goolil Solar Project - Native Vegetation Clearing Permit Djarindjin Community, Dampier Peninsula		<b>Legend</b> Site boundary Fauna Habitat Eucalyptus and Corymbia on Pindan red sand	<table border="1"> <thead> <tr> <th>No</th> <th>Description</th> <th>Drawn</th> <th>Approved</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Original issue</td> <td>JP</td> <td>LT</td> <td>3/12/2025</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Description	Drawn	Approved	Date	A	Original issue	JP	LT	3/12/2025																				
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## 4. Assessment Against the Ten Clearing Principles

An assessment of the proposed 7.54 ha of native vegetation clearing against the Ten Native Vegetation Clearing Principles contained in Schedule 5 of the EP Act is provided in Table 2.

The proposed clearing is unlikely to be at variance with any of the Clearing Principles.

**Table 2: Assessment Against the Ten Clearing Principles**

Assessment Results	Data Source/Tools for Assessment	Conclusion
<p><b>Principle (a) - Native vegetation should not be cleared if it comprises a high level of biological diversity.</b></p>		
<p>The Site is mapped to occur within the Dampierland (750) vegetation association which is well represented with over 99% of the pre-European extent is remaining on a state, regional and local scale.</p> <p>GHD (2021, 2023) did not record any Threatened flora pursuant to the EPBC Act or BC Act, or Priority flora listed by DBCA, within the Site and no conservation significant flora species were considered likely to occur.</p> <p>No TECs or PECs were identified within the Site, even though it was acknowledged to be within the buffer of the Vine Thickets TEC. The TEC was not considered to occur within the Site as the landform for the TEC (coastal sand dunes) was not present (GHD; 2021, 2023).</p> <p>The Site does not provide core habitat for any conservation significant fauna species (GHD, 2021; 2023; WEPL, 2025).</p> <p>Given that the vegetation association is well-represented in the region and that no conservation significant flora or ecological community has been recorded, the proposed clearing is unlikely to be at variance with this principle.</p>	<ul style="list-style-type: none"> <li>• GHD (2021;2023).</li> <li>• PMST Database search (DCCEEW, 2022).</li> <li>• DBCA Threatened and Priority Flora Database Search (DBCA, 2025b).</li> <li>• GoWA (2019).</li> <li>• Pre-European Vegetation dataset (DPIRD-006).</li> </ul>	<p>Unlikely to be at variance.</p>
<p><b>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</b></p>		
<p>The survey undertaken by GHD (2021, 2023) and WEPL (2025b) did no record any Threatened and Priority fauna species within the Site pursuant to the EPBC Act or BC Act.</p> <p>Seven conservation significant species were considered to have 'High' or 'Medium' likelihood of occurring within the Site, including:</p> <ul style="list-style-type: none"> <li>• Gouldian Finch (<i>Chloebia gouldiae</i>) - Listed Endangered under EPBC Act and Priority 4 under BC Act.</li> <li>• Grey Falcon (<i>Falco hypoleucos</i>) - Listed Vulnerable under EPBC and BC Act.</li> <li>• Peregrine Falcon (<i>Falco peregrinus</i>) - Listed Other Specially Protected under the BC Act.</li> <li>• Northern Blue-tongued Skink (<i>Tiliqua scincoides intermedia</i>) - Listed Critically Endangered under EPBC and BC Act.</li> <li>• Masked Owl (<i>Tyto novaehollandiae kimberli</i>) - Listed Vulnerable under EPBC Act and Priority 1 under BC Act.</li> <li>• Greater Bilby, Dalgyte, Ninu (<i>Macrotis lagotis</i>) - Listed Vulnerable under EPBC and BC Act.</li> <li>• Northern Brushtail Possum (<i>Trichosurus vulpecula arnhemensis</i>) - Listed Vulnerable under EPBC and BC Act.</li> </ul> <p>The Site itself does not provide core habitat for any of the species listed above and the clearing will not impact the availability of suitable habitat for any of these species.</p> <p>To minimise the risk of fauna impact during clearing, mitigation measures such as pre-clearance surveys and directional clearing will be applied. These may be implemented through a CEMP or similar.</p>	<ul style="list-style-type: none"> <li>• WEPL (2025b).</li> <li>• GHD (2021; 2023).</li> <li>• PMST Database search (DCCEEW, 2025).</li> <li>• DBCA Threatened and Priority Fauna Database Search (DBCA, 2025c).</li> </ul>	<p>Unlikely to be at variance</p>

Assessment Results	Data Source/Tools for Assessment	Conclusion
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Based on the above, the proposed clearing is unlikely to be at variance with this principle.

**Principle (c) - Native vegetation should not be cleared if it includes or is necessary for the continued existence of, rare flora**

No Threatened or Priority flora were recorded during the survey (GHD, 2023) or were considered likely to occur within the Site as identified in the desktop assessment. The vegetation present is unlikely to contain suitable habitat for Threatened or Priority flora species or was not detected during suitable survey effort. Therefore, the proposed clearing is not at variance with this principle.

- PMST Database search (DCCEEW, 2022).
- DBCA Threatened and Priority Flora Database Search (DBCA, 2025b).
- GHD (2021; 2023).

Not at variance.

**Principle (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**

The Site is located within a 2 km buffer of the Vine Thickets TEC, however no TECs or PECs were identified within the Site during the two detailed flora and vegetation surveys. The TEC is not considered to occur within the Site as the landform for the TEC (coastal sand dunes) was not present.

The native vegetation present within the Site does not comprise whole or part of, nor is it likely to be necessary for the maintenance of, a TEC. Therefore, the proposed clearing is not at variance with this principle.

- GHD (2021; 2023).

Not at variance

**Principle (e) - Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been significantly cleared**

The Site is not within a constrained area (Dampierland). The high-level vegetation association in this area has been mapped by Beard (1990) as the Dampierland (750) vegetation association. It is described as shrublands, pindan; *Acacia tumida* shrubland with grey box & cabbage gum medium woodland over ribbon grass & curly spinifex (GoWA, 2019). The extent of this vegetation association remaining at the state, regional and local scale is over 99% as displayed below.

Vegetation Association	% Remaining Western Australia	% Remaining Carnarvon IBRA Region	% Remaining Shire of Ashburton
Dampierland (750)	99.56	99.68	99.51

- Beard (1990).
- GoWA (2019).
- Pre-European Vegetation dataset (DPIRD-006).

Not at variance.

The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia and is not considered to be part of any significant linkage in the locality.

Therefore, the proposed clearing is not at variance with this principle.

**Principle (f) - Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or a wetland**

Assessment Results	Data Source/Tools for Assessment	Conclusion
<p>There is no watercourse mapped within the Site. The nearest mapped watercourse is a river located approximately 650 m south of the Site, which connects with the ocean to the west (WAPC, 2008). The coastal waterline is located 2 km south-west of the Site. There are no nationally significant wetlands within a 50 km radius of the Site.</p> <p>The vegetation within the Site is not considered riparian vegetation or growing in association with riparian vegetation. Therefore, the proposed clearing is not at variance to this principle.</p>	<ul style="list-style-type: none"> <li>• Hydrography (DWER-031).</li> <li>• Directory of Important Wetlands in Australia (DBCA-045).</li> </ul>	<p>Not at variance.</p>
<p><b>Principle (g) - Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation</b></p>		
<p>The Site is situated on the Yeeda System (335) which is characterised by red sandplains supporting pindan vegetation. Sandplain and dunefields with little organised drainage; sandplain up to 16 km in extent, with shallow valleys, plains with thin sand cover, and scattered pans.</p> <p>The limited surface drainage may result in sheet-flow and the potential for short-term water erosion may occur during the wet season (December to March) due to heavy rainfall. This is not considered to be a long-term issue due to the highly porous soils within the application area.</p> <p>The proposed clearing is mapped as sandy soils which may result in minor wind erosion within the locality, however the surrounding vegetation will provide some protection and limit any wind erosion.</p> <p>Given the nature of soils within the Site, it is unlikely that appreciable land degradation will occur and therefore the proposed clearing is unlikely to be at variance with this clearing principle.</p>	<ul style="list-style-type: none"> <li>• Australian Bureau of Meteorology (2023).</li> <li>• Soil Landscape Mapping Best Available dataset (DPIRD-027).</li> <li>• Payne and Schoknecht (2011).</li> </ul>	<p>Unlikely to be at variance.</p>
<p><b>Principle (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</b></p>		
<p>The Site is located within an ESA associated with the buffer of a TEC, namely Monsoon (vine) thickets on coastal sand dunes of Dampier Peninsula. As identified in the previous surveys, the TEC was not considered to occur within the Site as the landform for the TEC (coastal sand dunes) was not present.</p> <p>The nearest conservation area, Bardi Jawi Gaarra Marine Park, is located approximately 1.2 km west of the Site.</p> <p>The Site forms part of the West Kimberley National Heritage Place, which extends across the Dampier Peninsula.</p> <p>The Site is also located within the Bardi Jawi Indigenous Protection Area (IPA). IPAs are areas of land and sea that Traditional Owners have agreed to manage for conservation, with the IPA program jointly managed by DCCEEW and the National Indigenous Australians Agency. The IPA is designated as IUCN categories IV and VI which are identified for the following purposes:</p> <ul style="list-style-type: none"> <li>• IV: Habitat/species management area - Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category.</li> </ul>	<ul style="list-style-type: none"> <li>• GHD (2021; 2023).</li> <li>• Environmentally Sensitive Areas dataset (DWER-046).</li> <li>• DBCA Legislated lands and Waters (DBCA-011).</li> <li>• DCCEEW (2022)</li> </ul>	<p>Unlikely to be at variance.</p>

Assessment Results	Data Source/Tools for Assessment	Conclusion
<ul style="list-style-type: none"> <li>VI: Protected areas with sustainable use of natural resources - Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims.</li> </ul> <p>The use of the Site for renewable energy infrastructure which will service DAC is not considered to be inconsistent with the management categories above. The clearing will not impact flora, fauna, or ecological communities that are of conservation significance, and the end use of the Site will balance ecological impacts with infrastructure that will benefit the community.</p> <p>Given the distance from the nearest conservation area, and that the use of the Site is consistent with the management purposes of the Bardi Jawi IPA, the proposed clearing is unlikely to be at variance with this principle.</p>		
<p><b>Principle (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</b></p>		
<p>Layout Plan No. 3 identifies a Drinking Water Source Protection Area located approximately 60 m north of the Site and the nearest mapped watercourse is a river located approximately 650 m south of the Site. The vegetation type within the Site is not associated with riparian vegetation.</p> <p>It is unlikely the proposed clearing will result in significant changes to the water table and there for the Proposed Clearing is unlikely to be at variance with this principle.</p>	<ul style="list-style-type: none"> <li>Hydrography (DWER-031)</li> <li>WAPC (2008).</li> </ul>	<p>Unlikely to be at variance.</p>
<p><b>Principle (j) - Native vegetation should not be cleared if the clearing of the vegetation is likely to cause or exacerbate the incidence or intensity of flooding.</b></p>		
<p>The proposed clearing may increase the risk of localised flooding following periods of heavy rainfall, which is commonly experienced by the region. Given the soil within the Site is sandy, which is highly permeable, it is considered that the soils and conditions onsite are not prone to waterlogging or generating surface water run-off and any potential waterlogging would be short-term.</p> <p>The <i>A Guide to the Assessment of Applications to Clear Native Vegetation</i> (DER, 2014) states the following for Principle (j): “Consideration of this principle may require extensive modelling of the whole catchment and should only be considered for large clearing projects. For smaller applications, clearing should not cause waterlogging (localised flooding).”</p> <p>Given no watercourses, wetlands or vegetation associated with watercourses are recorded within the Site, and the Site is not situated in a floodplain control area, the proposed clearing is unlikely to contribute to waterlogging and exacerbate flooding. The proposed clearing is therefore unlikely to be at variance with this principle.</p>	<ul style="list-style-type: none"> <li>FPM 1 in 100 (1%) AEP Floodway and Flood Fringe Area (DWER-014).</li> <li>Soil Landscape Mapping Best Available dataset (DPIRD-027).</li> <li>A guide to the assessment of applications to clear native vegetation (DER, 2014).</li> <li>GHD (2021; 2023).</li> </ul>	<p>Unlikely to be at variance.</p>

## 5. Avoidance and Mitigation

The extent of proposed clearing has been minimised as far as possible to provide adequate space for the necessary infrastructure as well as mitigation of bushfire risks. Any mitigation measures or onsite management deemed necessary through the complementary approvals processes will be applied. Opportunities to minimise the clearing footprint and avoid impacts were limited given the asset protection zones required to reduce bushfire risk.

Methods that will be used during construction to minimise impacts on surrounding vegetation include:

- Utilisation of existing cleared land for the storage of materials.
- Using existing track and road systems for access.
- Prune rather than clearing where possible.

The assessment against the ten clearing principles identified the need for a CEMP to be prepared prior to construction. This will detail the high-level management measures that will be implemented to minimise impacts to environmental values during clearing and construction works and minimise risk of indirect impacts to adjacent vegetation. The CEMP will include, but is not limited to, mitigation measures to the following risks:

- Unauthorized clearing.
- Fauna injury or death.
- Wind/air dispersal of noise, vibration and dust.
- Water and soil contamination.
- Spread of soil pathogens and weeds.
- Inappropriate waste management.
- Dewatering.

## 6. Conclusion

Based on the assessment above, the proposed clearing is considered unlikely to be at variance with any clearing principles.

The environmental impacts resulting from the proposed works can be effectively minimised through the preparation and implementation of a CEMP with standard best practice mitigation measures. Further mitigation measures and onsite management deemed necessary through the complementary approvals processes will be applied.

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# Appendix H: Aviation Reporting

Tom Willday  
Senior Development Manager  
RFF  
By email: [Tom@rffaustralia.com](mailto:Tom@rffaustralia.com)

Our reference: 1012101-01

Dear Tom,

**RE: Djarindjin-Lombadina Solar Farm Glint and Glare Assessment Peer Review**

Please find in this correspondence a peer review of the solar glint and glare analysis undertaken by Jacobs for the Djarindjin-Lombadina Solar Farm, proposed to be located approximately 1 kilometre to the east of the Djarindjin Community in Western Australia. This peer review focuses on the aviation aspects of the Jacobs report. The other receptors presented in the report such as the township or roads locations have not been assessed in this correspondence.

**1.1. Project Background**

The Project includes the establishment of a solar farm with a Battery Energy Storage System (BESS) as well as the required associated infrastructure with a target to generate 1.4 megawatts (MW) of solar energy, supported by a 3.5 MWh BESS.

The proposed solar PV system is based on a number of REC470AA Pure-RX panels for a total output of 1.4MW. The Project is proposed to comprise of number of solar arrays laid at a 20° azimuth. The proposed solar PV system layout is shown at Figure 1 (source: RFF).

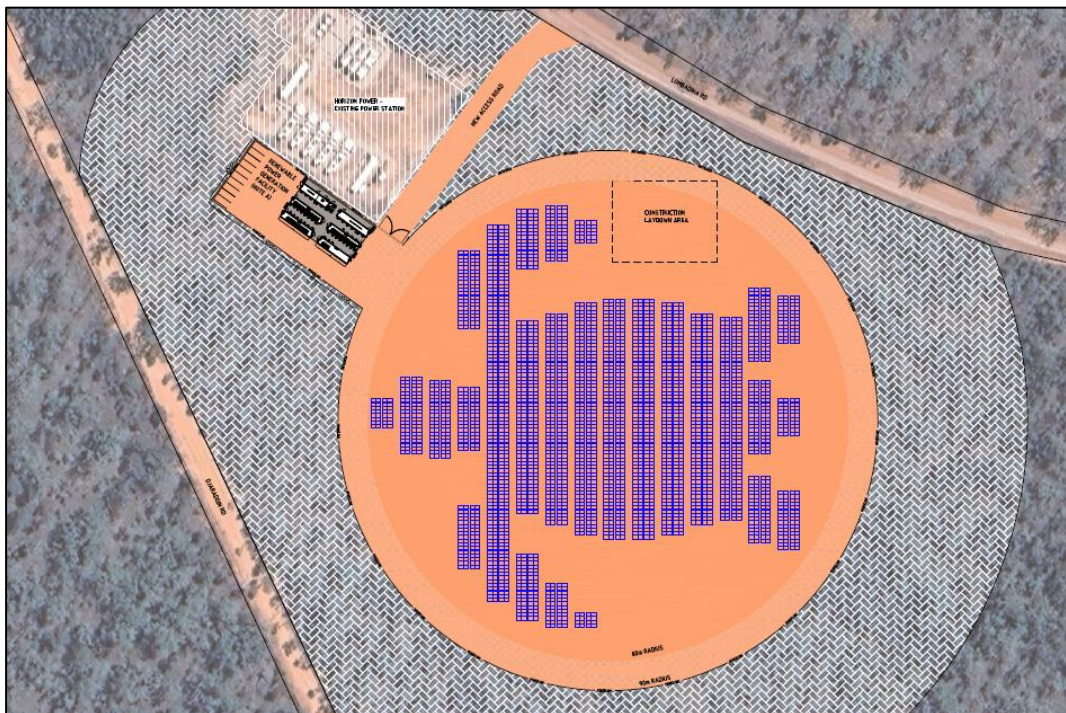


Figure 1 Proposed layout of Solar PV System

## 1.2. Scope of Works

The following items form the scope of works:

1. Provide a peer review regarding the aviation aspects of the previously commissioned Jacobs report for the Project, commenting on:
  - a. CASA requirements
  - b. Published Helicopter procedures.

## 1.3. References

References used or consulted in the preparation of this report included:

- Airservices Australia, Aeronautical Information Package (AIP), dated 27 November 2025
- Civil Aviation Safety Authority, *Civil Aviation Safety Regulations 1998* (CASR)
- Civil Aviation Safety Authority, Part 139 (*Aerodromes*) Manual of Standards 2019, dated 12 June 2025
- Department of Infrastructure and Regional Development, Australian Government, National Airport Safeguarding Framework, Guideline E *Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports*
- Djarindjin-Lombadina Solar Farm Glint and Glare Assessment, Jacobs, dated 21 December 2022
- Federal Aviation Administration, Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports 78 FR 63276, Federal Register, vol. 78, No. 205, dated October 2013
- Federal Aviation Administration, Final Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports 86 FR 25801, dated May 2021.

## 1.4. Client material

RFF provided the layout and specifications for the solar farm:

- IS442800-GG-RPT-0001-A Djarindjin-Lombadina Solar Farm Glint and Glare Assessment.pdf
- DAC-RPG-LAY-001.pdf
- DAC-RPG-SEC-001.pdf
- DAC-RPG-SGA-001.pdf

## **1.5. Aviation planning context summary**

### **1.5.1. Federal Aviation Administration guiding policy**

The Federal Aviation Administration (FAA) provided a free tool called *Solar Glare Hazard Analysis Tool* (SGHAT) and supporting Interim Policy 78 FR 63276 for the assessment of solar glare.

The 2013 assessment requirement specified:

*No potential for glare or “low potential for after-image” along the final approach path for any existing landing threshold or future landing thresholds (including any planned interim phases of the landing thresholds). The final approach path is defined as two (2) miles from fifty (50) feet above the landing threshold using a standard three (3) degree glidepath.*

SGHAT was withdrawn from public access in 2017. The ForgeSolar glare analysis tool is recommended instead for non-military/government users and is used for the analysis of the proposed Project.

Glint and glare analysis should determine the level of adherence to the FAA policy for these components:

1. Analysis time interval and eye characteristics used are acceptable
2. No glare of any kind for Air Traffic Control Tower(s) (ATCT) at cab height
3. Flight path receptor(s) do not receive yellow glare.

FAA Final Policy - In May 2021, the FAA released the final policy: *Review of Solar Energy System Projects on Federally Obligated Airports*. This policy replaces the interim policy which had until May 2021 been the basis for reviewing solar projects in relation to aviation impacts in the USA and broadly accepted internationally as the preferred standard for the review of solar impacts for aviation.

The final policy is primarily interested in the potential impact of solar glare on air traffic control tower personnel. (The interim policy required federally obligated airports to conduct an ocular analysis of potential glint and glare effects to pilots on final approach and air traffic control tower (ATCT) cabs before construction begins.) Initially, the FAA believed that solar energy systems could introduce a novel glint and glare effect to pilots on final approach.

FAA has subsequently concluded that in most cases, the glint and glare from solar energy systems to pilots on final approach is similar to glint and glare pilots routinely experience from water bodies, glass facade buildings, parking lots, and similar features.

### **1.5.2. Civil Aviation Safety Authority – Aerodromes**

The Civil Aviation Safety Authority (CASA) regulates aviation activities in Australia. Standards for certified aerodromes are established in CASR Part 139 MOS. Chapter 9.143 of Part 139 MOS (Other lighting on the aerodrome) states in section (8) and (9):

*(8) An aerodrome operator must immediately notify CASA in writing of any proposals for equipment or lighting installation within the aerodrome boundary which would reflect sunlight, including solar panels, mirrors or reflective building cladding, and*

*(9) An aerodrome operator must not proceed with any proposal mentioned in subsection (8) unless CASA has determined, in writing, that it will not cause a hazard to aircraft operations.*

As the Project is situated outside of the Djarindjin/Lombadina Airport’s boundary there is no requirement for the aerodrome operator to notify CASA.

### 1.5.3. National Airport Safeguarding Framework Guideline

The National Airport Safeguarding Framework Guideline E *Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports* provides guidance on the potential risk of distractions to pilots of aircraft from lighting and light fixtures near airports but does not specifically address solar glare and is not considered as a limitation for the Project.

### 1.5.4. Djarindjin/Lombadina Airport

Djarindjin/Lombadina Airport is a certified aerodrome located in remote Western Australia operated by Djarindjin Airport Pty Ltd. The aerodrome is regulated under the CASR Part 139. It has a single runway strip with runway designators 10/28 and is provided with two non-precision instrument flight procedure that may only be used by helicopters.

Figure 2 provides the Djarindjin/Lombadina Airport details from the AIP (source: Airservices Australia DAP, effective 27 November 2025)

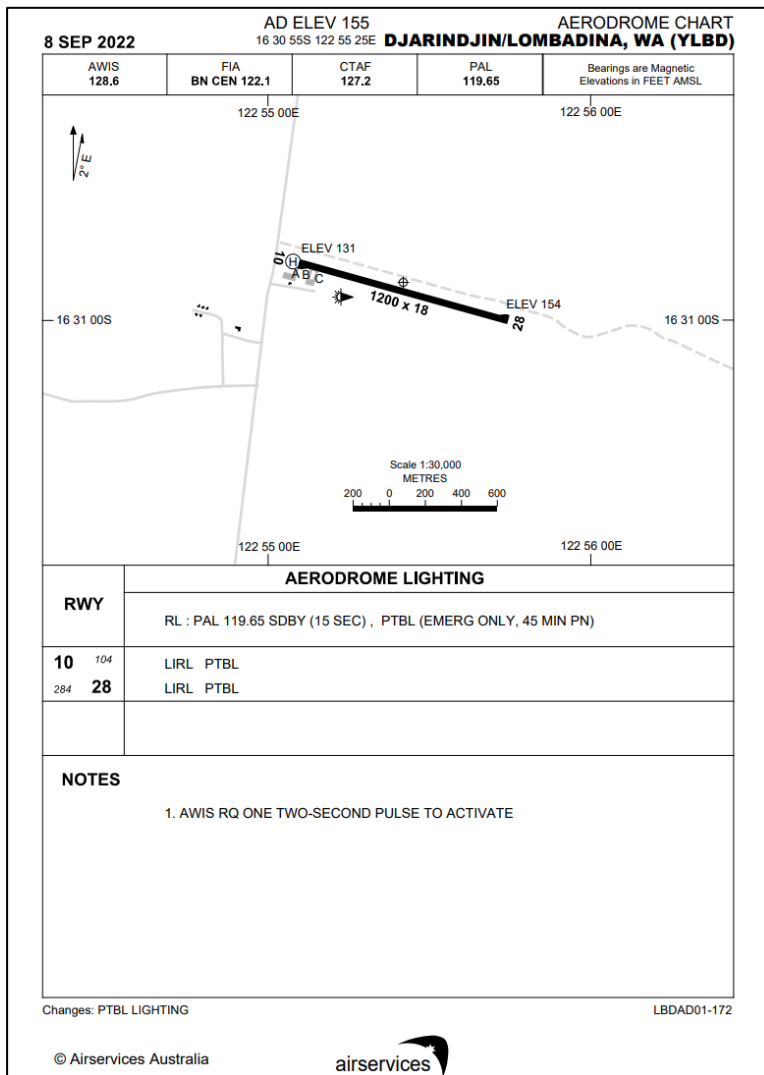


Figure 2 Djarindjin/Lombadina aerodrome details

**1.6. Review of Jacobs Flight path analysis**

ForgeSolar employs an interactive Google map where the user can locate a site, draw an outline of the proposed PV array(s) and specify observer locations or paths. Latitude, longitude, and elevation are automatically queried from Google, providing necessary information for sun position and vector calculations. Additional information regarding the orientation and tilt of the PV panels, reflectance, environment, and ocular factors are entered by the user.

The assessment conducted previously by Jacobs provides assessment and outputs that are consistent with the software provided by Solar Forge and has considered the potential glare impact for aircraft approaching Djarindjin/Lombadina Airport on a 2-mile final approach path in accordance with the previous FAA policy, however it is noted that the 2021 FAA policy only requires an assessment of the potential glare impact for air traffic control towers. Djarindjin/Lombadina Airport does not have an air traffic control tower.

A glare analysis was prepared by Jacobs using the ForgeSolar application for the site proposed with settings as per details provided in Table 1.

Table 1 Solar farm specifications

<i>Parameter</i>	<i>Setting</i>
<b>Panel Tilt</b>	25 degrees
<b>Panel Orientation</b>	0 degrees

There have been slight changes to the Project since the Jacobs report was commissioned in both array layout and panel tilt. The Jacobs report assessed panel tilt at 25° while engineering drawings provided by RFF depict a panel tilt of 20°.

It appears from the outputs provided in the previous report that the assessment was conducted using the same Project site boundary as currently proposed by the Proponent.

The ForgeSolar application is likely to have assessed the entire project area as an array and therefore slight changes to array layout is unlikely to have a major impact on the outcomes provided in the previous report, coupled with the change in the FAA policy that flightpaths are no longer an area of concern for the momentary flashes from solar arrays, it is unlikely that the proposed minor changes to the array will have an impact on operations to the Djarindjin/Lombadina Airport.

**1.7. Helicopter operations**

As mentioned above in Section 1.5.4, the two Instrument approach procedures provided by Airservices Australia for the Djarindjin/Lombadina Airport are limited to helicopter operations only. The procedures are shown in Figure 4 and Figure 5 (source: Airservices Australia DAP, effective 27 November 2025)

These procedures align helicopters on a runway aligned final approach that stretches approximately 3.7NM from either end of the runway. These helicopter procedures broadly follow the previously assessed final flight paths in the Jacobs report.

Operations (both helicopter and fixed wing aircraft) are not limited to the modelled final approach parameters within the Jacobs report. There may be local traffic flows that exist at the aerodrome that do not utilise the final approach modelled in the report.

A review of air traffic visible to FlightRadar24 (flightradar24.com) shows visible helicopter operations mainly use the modelled flight path to arrive and depart from the aerodrome. Please note that Flightradar24 is not an

exhaustive source of all air movements that operate into or out of Djarindjin/Lombadina Airport and provides an indicative result of aircraft movements visible to the platform through ADS-B technology.

Figure 3 below shows an example of a helicopter operation on the 24<sup>th</sup> of October 2025 from Djarindjin/Lombadina Airport, taking off to the west for a flight to the north, then returning later for a landing from the east (source: Flightradar24, Google Maps)

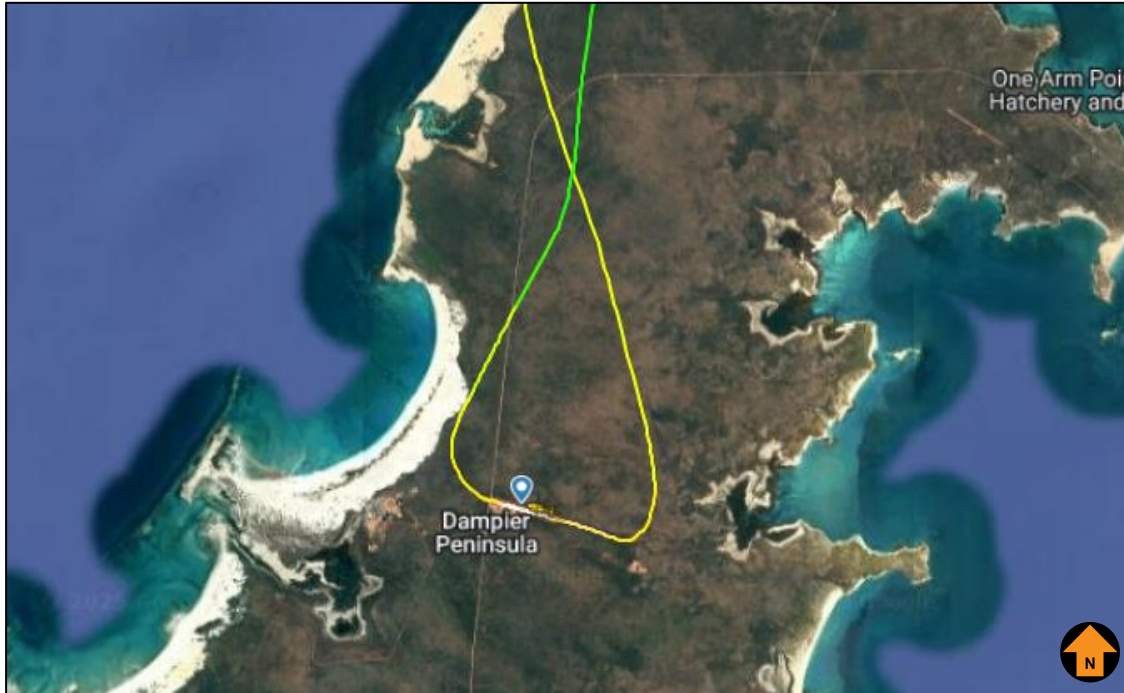


Figure 3 Helicopter operation from the aerodrome

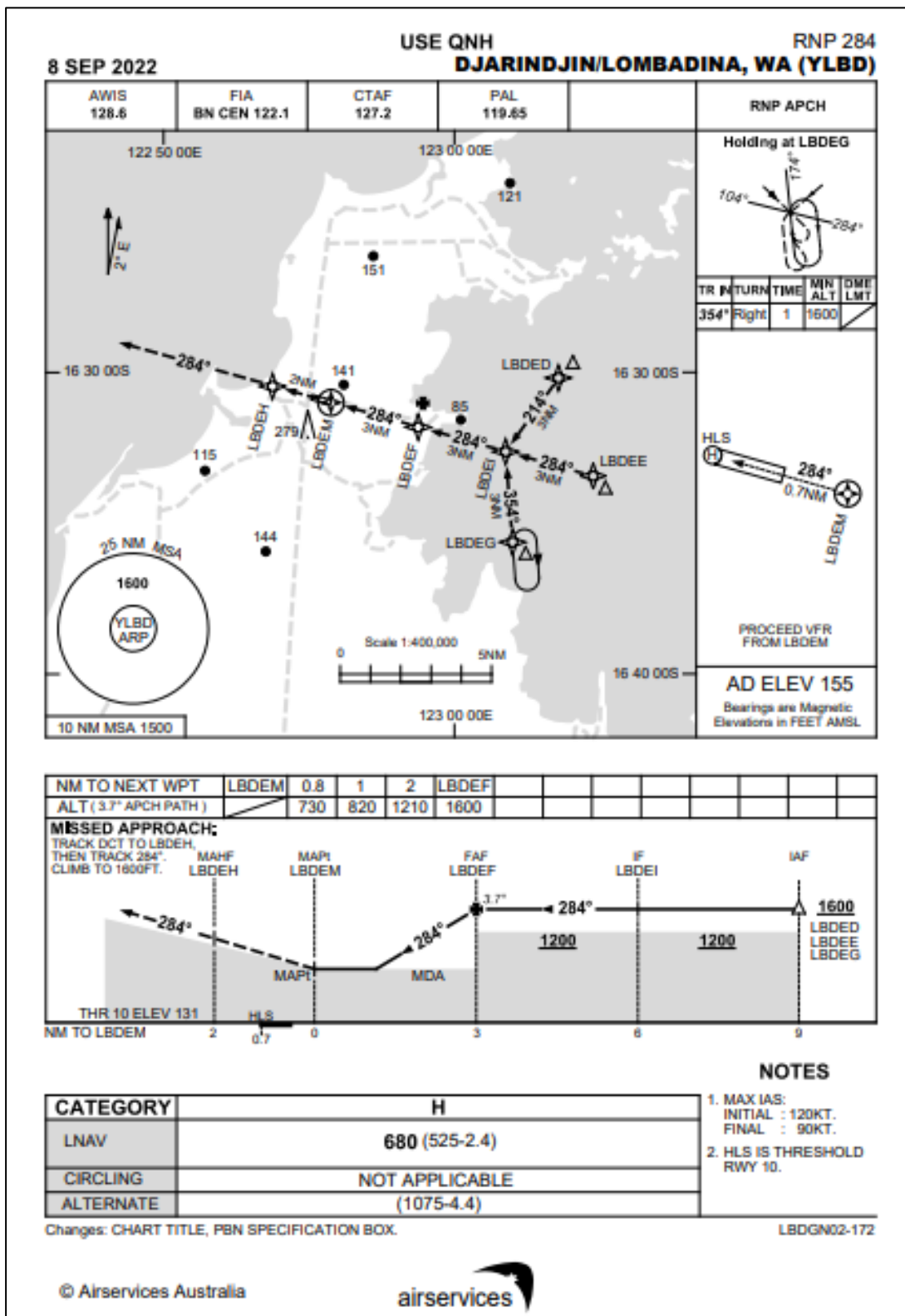


Figure 4 Helicopter approach from the east

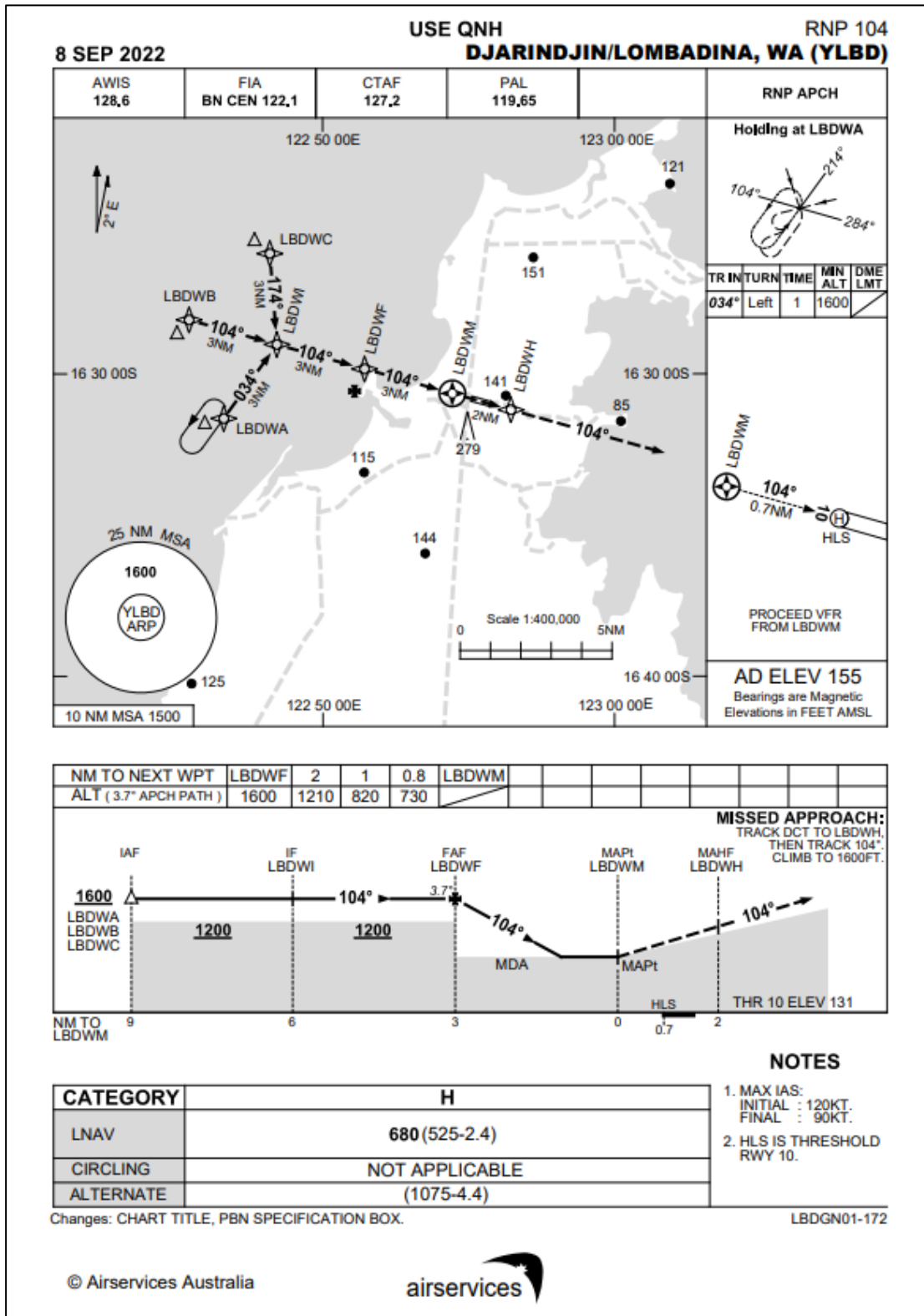


Figure 5 Helicopter approach from the west

## 1.8. Conclusion

After reviewing the previously issued Jacobs report for the Project and giving consideration to the following:

- Updates to the relevant FAA guidance changing to exclude the final flight path component in glint and glare assessments
- The Project is proposed to be outside of the boundary of a certified aerodrome
- A desktop overview of helicopter operations conducted at Djarindjin/Lombadina Airport

I am satisfied that CASA approval is not required for the development process for the Project to proceed.

If you wish to clarify or discuss the contents of this correspondence, please contact me on 0419 666 733.

Kind regards,



Brad O'Connor

Specialist Aviation Consultant

28 October 2025





## Executive Summary

This Development Application seeks approval for the Aalga Goolil Djarindjin Community Power Project (DCP Project), a renewable-energy facility proposed by the Djarindjin Aboriginal Corporation (DAC) and to be developed and owned via its wholly owned subsidiary, Aalga Goolil Djarindjin Community Power Pty Ltd (AG), on Lot 297 on Deposited Plan 93256 in respect of which DAC is the registered lessee. The DCP Project will establish Western Australia's first 100% Indigenous-owned and operated solar-battery power station, supplying 80% renewable electricity to the Djarindjin and Lombadina communities, and significantly displacing the use of the ageing Horizon Power diesel plant. The diesel power plant will be operated by Horizon Power separately to meet the balance of supply.

The development occupies approximately 7.53 hectares between Chile Creek Road and Lombadina Road reserve and comprises a 1.6 MWp solar PV array, 3.52 MWh battery energy storage system, control building, internal access roads, firebreaks, drainage and associated site works (Aalga Goolil Power Station). The Aalga Goolil Power Station will connect to the existing Djarindjin-Lombadina microgrid at the existing Djarindjin power station, and operate in both grid-connected and islanded modes, supporting long-term energy security, reduced diesel usage and costs, and will create new local training and employment opportunities. The ageing diesel facility will be upgraded in parallel by Horizon Power before it reaches end of life.

The proposal has been shaped through extensive consultation with DAC members, the Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC (Bardi Jawi PBC), Lombadina Aboriginal Corporation, Horizon Power, the Shire of Broome, funding bodies and State agencies. Djarindjin Layout Plan 3 Amendment No. 15, reclassifying the site to Public Utility, was prepared to enable the DCP Project and has been approved.

A comprehensive assessment demonstrates that the DCP Project is consistent with the strategic and statutory planning framework, including the Dampier Peninsula Planning Strategy, Shire of Broome Local Planning Strategy, State Planning Policies (SPP 2.0, 2.5, 3.2, 3.7 and 4.1), the WAPC's Renewable Energy Facilities Position Statement, and the Djarindjin Layout Plan No. 3. The Aalga Goolil Power Station is compatible with its surroundings, located adjacent to previously disturbed land with existing utilities infrastructure, and suitably separated from sensitive uses.

Environmental, bushfire, engineering and heritage assessments confirm the site is suitable for development, with impacts effectively mitigated through the Native Vegetation Clearing Permit, Bushfire Management Plan, Construction Environmental Management Plan and the Heritage Protection Agreement with the Bardi Jawi PBC. A Glint and Glare assessment also confirms no unacceptable risks to aviation or road users.

Overall, the DCP Project represents orderly and proper planning and delivers critical community infrastructure that advances Aboriginal self-determination, sustainability and economic resilience. The proposal is well supported by policy, technically feasible, environmentally responsible, and aligned with community aspirations. Approval is therefore respectfully sought.



Department of **Planning,  
Lands and Heritage**



Our ref: Case 2501171  
File ref: 2155-1975  
Enquiries: Chris James, 0429 178 467

Mr Nathan McIvor  
Chief Executive Officer  
Djarindjin Aboriginal Corporation  
Via email to: [ceo@djardjin.org.au](mailto:ceo@djardjin.org.au)

Dear Mr McIvor

## **LETTER OF SUPPORT**

Thank you for your letter dated 23 September 2025 regarding ongoing long-term investment and economic and social development activities by Djarindjin Aboriginal Corporation (DAC) on Lease I126915 (Lease), held by DAC for the purpose of “Use and Benefit of Aboriginal Inhabitants”.

The Department of Planning Lands and Heritage (Department) acknowledges the significant work done to date and proposed by DAC to provide for the economic and social development of the Djarindjin community and others on the Dampier Peninsula. The Department is supportive of the initiatives referenced in your letter as:

- a) the Djarindjin Airport
- b) the Solar Project
- c) the Disaster Resilience and Training Facility
- d) the Accommodation, Food and Tourist Hub
- e) the Worker Village
- f) the Community Housing Project

Where the above initiatives fall within the Lease, the Department would be pleased to receive and consider any request for Minister for Lands’ approval of any sublease required. We note that these initiatives appear to fall within the Lease’s purpose.

With regard to initiative g) the Layout Plan Changes, Minister for Lands’ approval is not required. For enquiries regarding this initiative, please contact Ashley Randell, Planning Director, Land Use Planning, on 6551 9329 or via email to [ashley.randell@dph.wa.gov.au](mailto:ashley.randell@dph.wa.gov.au).

As you know, the Lease is due to expire on 30 June 2041. The Department understands the need for certainty to support the pursuit of the initiatives noted in your letter, for DAC and other stakeholders who are involved, including the Djarindjin community and others on the

Dampier Peninsula who may benefit from them, as well as funders, investors and government agencies.

Consistent with the Department's letter of 13 June 2025, it is recommended that DAC submit a revised proposal to the Department seeking a partial surrender of the Lease to facilitate the grant of long-term tenure over the area necessary to support DAC's current and planned uses of the land.

The grant of long-term tenure over part of the Lease will be a future act under the *Native Title Act 1993* (Cth) (NTA), and the negotiation of an indigenous land use agreement (ILUA) between the State, DAC and Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC (BJNAC) is the State's preferred approach to address the requirements of the NTA.

Should DAC submit a proposal for long term tenure as recommended above, the Department commits to investigating the grant of tenure in accordance with the requirements of the *Land Administration Act 1997*, the NTA, the *Aboriginal Affairs Planning Authority Act 1972* and other applicable laws as a priority.

The Department looks forward to working with DAC to progress efforts toward a tenure resolution.

Should you have any queries, please contact Chris James on 0429 178 467 or via email to [chris.james@dplh.wa.gov.au](mailto:chris.james@dplh.wa.gov.au).

Yours sincerely



Matt Darcey  
Assistant Director General  
Land Use Management

19 November 2025



## **PART C – OTHER BUSINESS**

- 1. State Administrative Tribunal Applications and Supreme Court Appeals**
- 2. Meeting Closure**