



ISSUE STATUS

FOR PLANNING

CLIENT

TIM MITRA

PROJECT

PALMERS STUD

REV	DESCRIPTION	DATE
A	CONCEPT DESIGN	18.08.25
B	DETAILED DESIGN	10.09.25
C	DETAILED DESIGN	16.09.25
D	DETAILED DESIGN	22.09.25
E	FOR PLANNING	05.12.25

Notes

1. Structural calculations, guidance or notes of is for guidance only, not for construction. You must engage a structural engineer.
2. All documentation provided does not limit your liability in respect to the engagement and full compliance of Planning and/or Building Control.
3. The nominated Building Control officer has the right to superceed any and all of the information contained within this document. You are required by Law to comply with the explicit directions given by your Building Control officer.

PROJECT ID	DATE of ISSUE
45855	30.06.25
SCALE (@ A1)	REV
1 : 50	E

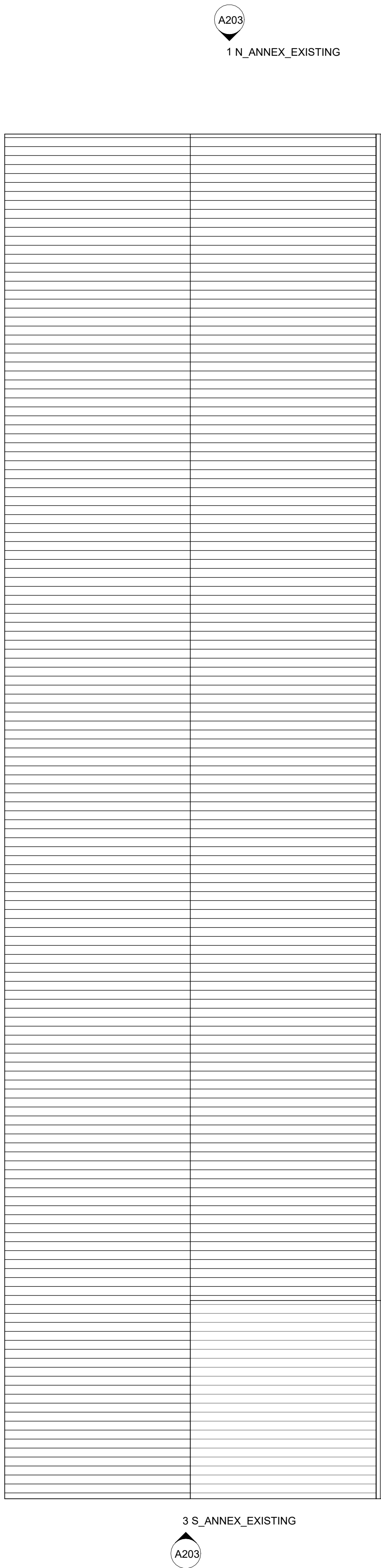
TITLE

ROOF PLANS

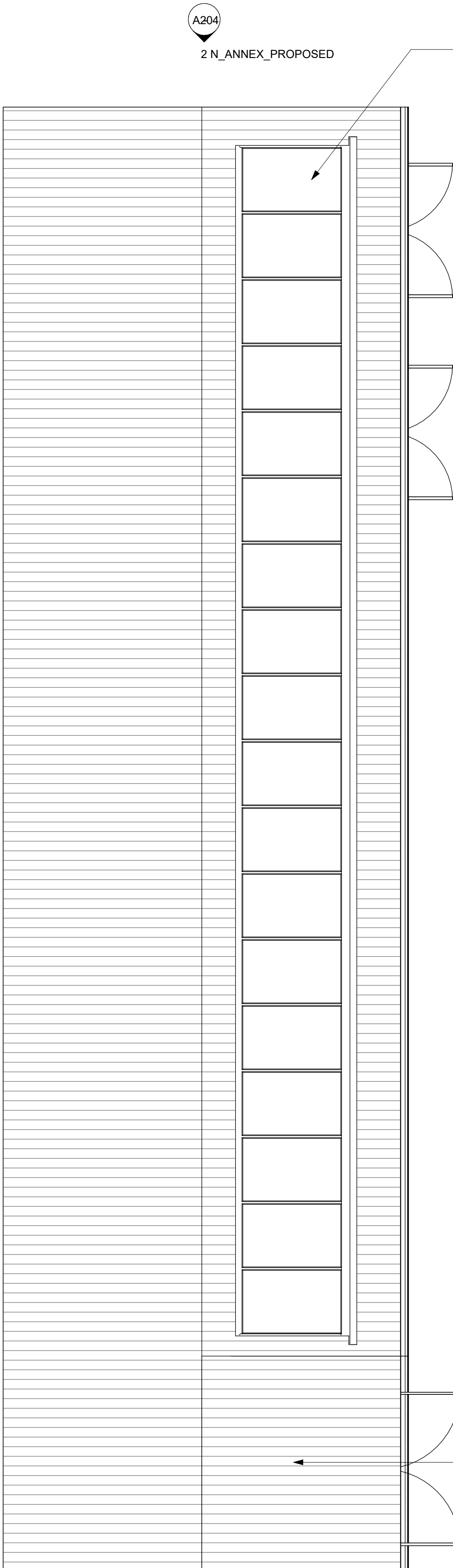
DWG No.

A108

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2 ROOF_ANNEX_EXISTING
1 : 50



1 ROOF_ANNEX_PROPOSED
1 : 50

The proposed Eurenep MEPV 120 Nexa TOPCon 475/480Wp solar PV array, with a maximum peak output of **8.55 kWp** (18 units), is estimated to generate an annual average of 24kWh/day of energy.

Based on a high-end average daily demand of 11.8kWh/day for a 4-bedroom house, the system is designed to provide a substantial surplus.

When accounting for estimated ancillary consumption (annex use and typical daily EV charging of 3.6 kWh/day, the total estimated demand is 20.4kWh/day.

This provides an average daily spare capacity of 3.6kWh/day, which represents approximately 15% of the gross average daily production.

This surplus energy will be stored in the positioned battery system and is available for greater ancillary use or export to the grid.

IMPORTANT

Export Limitation Scheme (ELS).

The Distribution Network Operator (DNO) requires an Export Limitation Scheme (ELS) for all solar PV and battery installations that have an aggregate capacity exceeding 3.68kW per phase (which is 16A).

- System Applicability:** The proposed system, with a maximum peak output of 8.55 kWp, exceeds this 3.68kW threshold and therefore requires compliance with Engineering Recommendation G99.
- Purpose:** The ELS (which complies with Engineering Recommendation G100) is a regulatory mechanism to manage and cap the instantaneous electrical power (kW) exported to the public distribution network. This is vital for maintaining grid stability and preventing local network overloads.
- Process:** The installer is required to submit a G99 application (along with an ELS Application Form) to the DNO for approval before the system is connected.

The ELS, integrated into the inverter and/or battery Energy Management System (EMS), operates as follows:

- Monitoring:** The scheme continuously measures the Apparent Power (in kilowatts) at the installation's exit point (Point of Connection).
- Limitation/Control:** If the system is generating more power than is being consumed or stored, and the export approaches the DNO-agreed maximum limit (to be confirmed via the G99 process, often 3.68 kW or 5kW:
 - The ELS will automatically and rapidly restrict the solar generation output or the energy storage discharge.
 - The system must reduce the exported Active Power to a value at or below the Maximum Export Capacity within 5 seconds.
- Fail-Safe Requirement:** The system must be "fail-safe". If any component of the ELS fails, it must automatically limit the exported power to prevent any capacity breaches.

Space for expansion to 21 panels in total subject to planning approval for the amendment to the Annexe Roof

