

Bradfield Development Authority

# Building Two Advanced Manufacturing Research Facility

Section 4.55 Modification Report  
Appendix M – Updated Net Zero Statement

25 November 2025

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**Western Parkland City Authority**

## Building Two, Advanced Manufacturing Readiness Facility (AMRF2)

Section 4.55(1A) Modification - Net Zero Statement

Reference: AMRFB2-ARU-REP-ES-00-00-02

2 | 15 November 2025



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Job number 295398-48

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# Document Verification

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Issue Document Verification with Document

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# Cover Note and Certification

Development consent SSD-58591961 for the Advanced Manufacturing Readiness Facility Building Two (AMRF2) was granted on 7 April 2025 by the Minister for Planning and Public Spaces. The approved development comprises the construction and operation of a five-storey advanced manufacturing (“high technology industry”) facility incorporating a café, parking, and landscaping. The site is located at Lot 3101 DP 1282964, 215 Badgerys Creek Road, Bradfield, within the Liverpool Local Government Area and the Western Sydney Aerotropolis (the Aerotropolis).

This Section 4.55(1A) modification seeks removal of a basement level, deletion of basement car parking, introduction of staged delivery of the development into two stages and minor design changes resulting from staging and ongoing design development.


AMRF2 will provide services, specialist equipment and workspaces for small to medium enterprises (SMES) and start-ups, large multinational companies (such as defence primes), government and research institutions to collaboratively develop and commercialise projects and products that can be supplied to key emerging sectors, such as defence, space and cleantech.

Level 3 and 4 of the building provide an office tenancy space intended for lease to prospective research and manufacturing collaborators with an area of 3,027 m<sup>2</sup>. We understand that the office component is to comply with the State Environmental Planning Policy (Sustainable Buildings) 2022 (Sustainable Buildings SEPP) Section 3.3 (1), which considers whether the development minimises the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050.

This Net Zero Statement has been amended to accompany the Section 4.55(1A) modification. It confirms that the building is being designed to be fossil fuel-free immediately upon occupation of the first stage, as detailed in this document.

## Certification

I am a qualified electrical engineer familiar with the project. I hereby certify that all evidence and information within this statement is correct to the best of my knowledge.

Name	<b>Bandula Subasinghe</b> Project Manager/Senior Electrical Engineer   Buildings NSW/ACT
Qualification	BSc.Eng(Hons), MIEAust, CPEng, NER
Signature	

# 1. Introduction

Development consent SSD-58591961 for the Advanced Manufacturing Readiness Facility Building Two (AMRF2) was granted on 7 April 2025 by the Minister for Planning and Public Spaces. The approved development comprises the construction and operation of a five-storey advanced manufacturing (“high technology industry”) facility incorporating a café, parking, and landscaping. The site is located at Lot 3101 DP 1282964, 215 Badgerys Creek Road, Bradfield, within the Liverpool Local Government Area and the Western Sydney Aerotropolis (the Aerotropolis).

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This Net Zero Statement has been amended to accompany the Section 4.55(1A) modification. It confirms that the building is being designed to be fossil fuel-free immediately upon occupation of the first stage, as detailed in this document.

## 2. On-site fossil fuel usage

AMRF2 is being designed to be operated fossil fuel-free immediately upon occupation of Stage 1, as well as in its final state.

All building services will operate with electricity, including:

- Heat pumps for heating
- Heat pumps for domestic hot water
- No gas connection for cooking facilities

The exception to this is emergency power generation in case of electricity grid connection failure, which will be by diesel generators. However, generators will be considered which will allow alternative types of fuel when available.

The project is registered with the Green Building Council (GBCA) under the Green Star Buildings v1 rating tool as GS-10820B and is committed to achieving a minimum Green Star 5-Star rating. It is a minimum requirement under this rating level for buildings to be all-electric, with 100% of the building’s energy to be obtained from on-site or off-site renewable sources, with Green Star requiring a minimum initial contract length for off-site renewable energy of 5 years. The rating is to be obtained within 2 years of completion of the first stage of the project, with a separate rating for the future final state requiring the second stage to be all-electric as well.

Fuels for industrial processes that may be conducted in the research and manufacturing components of the building are not considered in this statement.

### 3. Renewable Energy Generation and Storage

AMRF2 is being designed to generate renewable energy on site with the following initiatives:

- Solar photovoltaic (PV) generation to rooftop areas, including bio-solar roof over manufacturing hall, intended to be supplanted by roof PV where area is available, including over enclosed plant. Total solar PV capacity is expected to be approximately 180 kWp.
- Provision is made for future installation of a battery energy storage system on Level 4 for peak energy shifting of PV generated power.

### 4. Energy-efficient design

Strategies to reduce operational energy use considered in the design of AMRF2 include:

- (Stage 1 & 2) Envelope design using insulation, high performance selective glazing and external shading (including recessed glazing, external shading screens, fins) on appropriate elevations targeting 10% improvement over Section J envelope minimum compliance, balanced with allowing daylight into workspaces. Office space glazing is concentrated on north and south elevations, with shading screens used extensively on north and west facing glazing.
- (Stage 1) The aspect ratio of the laboratory component limits envelope loads relative to office floorplate size.
- (Stage 1 & 2) Heating and cooling from high-efficiency central plant. Heating will be via air source heat pumps. Cooling will be primarily from efficient water-cooled chillers with cooling tower heat rejection..
- (Stage 1) For tightly controlled research spaces, recirculation will be maximised, with outside air provided to the extent of providing pressurisation and ventilation. A plenum system is proposed for cleanroom air filtration to minimise filtration pressure drop. Predictive maintenance will be considered within the control strategy to limit HEPA filter loading.
- (Stage 1) Lab services will provide direct extraction of process heat where feasible to reduce heat loads impacting HVAC.
- (Stage 1 & 2) Efficient LED lighting throughout.

### 5. Energy Consumption

The project is registered with the Green Building Council (GBCA) under the Green Star Buildings v1 rating tool as GS-10820B and is committed to achieving a minimum Green Star 5-Star rating. It is a minimum requirement under this rating level for buildings that operational energy use must be at least 20% less than a reference building (Credit 22 Energy Use – Credit Achievement).

Preliminary calculations of the energy consumption of the building have indicated that the combined building will achieve the 20% reduction. Energy modelling simulation for the development state at completion of Stage 1, as well as the amended overall design, will be carried out during design finalisation.

BDA has entered an Agreement to Rate with NABERS for the base building provision to the office tenancy area on Level 3 and 4, with the intent to meet 5.5 Star NABERS Energy performance.

## 6. Conclusion

In conclusion, AMRF2 is being designed to be fossil fuel-free immediately upon occupation of the first stage. It complies with the Sustainable Buildings SEPP Section 3.3 (1), as it minimises the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050.