



MRI PV Installation
Design & Access Statement
February 2026



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1.0 Introduction

Purpose of the Proposal

The Manchester University NHS Foundation Trust (MFT) is initiating a strategic sustainability project to install Photo-Voltaic (PV) cells across designated roof spaces at its Oxford Road Campus. The primary objective is to generate a minimum of 574 (mWh) of sustainable electricity annually, contributing to the Trust's environmental goals and energy efficiency targets.

Summary of Works

Installation of PV panels is proposed across several roof areas within the Manchester Royal Infirmary (MRI) site. This planning application including the following four buildings:

- Patrick Cryne Building - K57/01
- Clinical Science Buildings (CSB)2 - K11/02
- Clinical Science Buildings (CSB) 3 - K11/03
- Peter Mount Building - K26/02

The proposal also includes man-safe systems and additional access ladders to facilitate safe roof access for future inspection and maintenance activities.

Hospital Context

Manchester Royal Infirmary (MRI) is a major teaching hospital and a key component of the Manchester University NHS Foundation Trust. Located in the heart of Manchester, it provides a wide range of acute healthcare services, including specialist treatments in cardiology, oncology, and trauma care. The hospital campus comprises a mix of historic and modern buildings, with several multi-storey wards, outpatient facilities, and support services. The site is characterised by high operational activity, with complex logistics and strict safety protocols to ensure uninterrupted patient care.

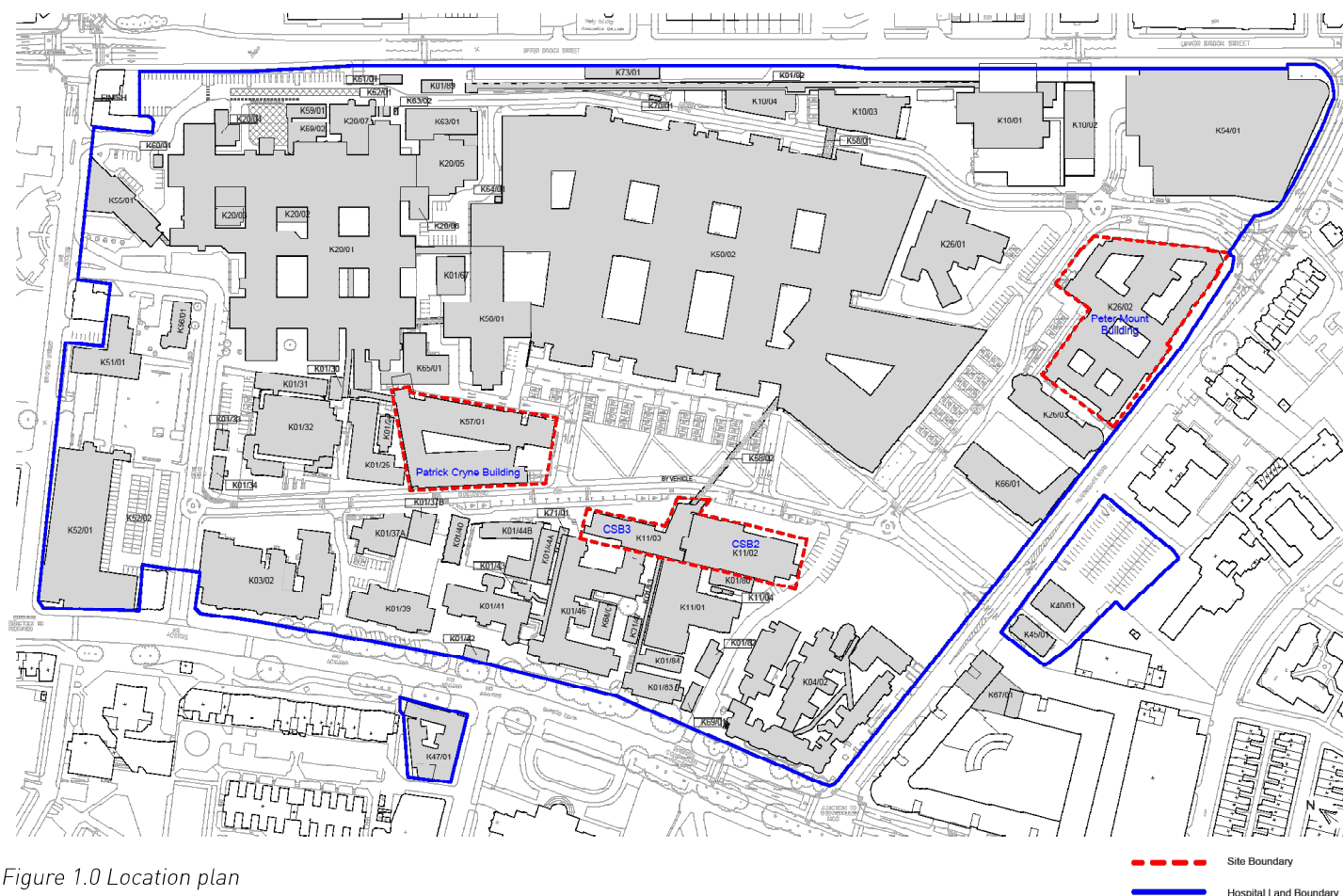


Figure 1.0 Location plan

2.0 Planning Policy Context

Local Plan Sustainability Policies

The proposal aligns with Manchester City Council's Local Plan sustainability objectives, which place strong emphasis on reducing carbon emissions, improving energy efficiency, and supporting renewable energy infrastructure across the city. Local planning policies encourage developments that contribute to the transition toward a low-carbon built environment, particularly through on-site generation and the integration of clean technologies.

Installing photovoltaic panels on existing hospital roofs supports these principles by utilising previously developed land, avoiding any loss of public realm, and increasing on-site renewable capacity in a way that is compatible with the surrounding urban context.

National Planning Policy Framework (NPPF) – Low Carbon & Renewable Energy

The project is fully consistent with the NPPF's commitment to mitigating climate change through the expansion of renewable and low-carbon energy generation. The NPPF encourages planning authorities to support proposals that help reduce greenhouse gas emissions and promote energy security, particularly where they involve small-scale renewable energy installations on existing buildings.

The PV arrays proposed for Manchester Royal Infirmary directly contribute to national carbon-reduction targets, improving the sustainability of essential public infrastructure while avoiding adverse impacts on amenity or the wider townscape.

Local Guidance on Rooftop Equipment and Visual Impact

Manchester's design guidance recognises that rooftop plant and equipment may be acceptable where visual impact is minimised, heritage settings are respected, and the installation does not detract from key townscape views.

The proposed PV panels are to be located on flat or gently pitched roofs, minimum 1m set back from roof edges, and positioned to minimise visibility from public viewpoints. The low-profile nature of modern PV modules ensures that the intervention remains discreet and does not alter the character of the surrounding built form. No harm is anticipated to the appearance of the hospital campus or to nearby conservation areas, and all equipment will be finished in muted, non-reflective materials to reduce visual prominence.

NHS Net-Zero and Decarbonisation Priorities

This project directly supports the NHS England commitment to achieve Net Zero by 2040 for its directly controlled emissions. MRI as part of Manchester University NHS Foundation Trust, is progressing a comprehensive decarbonisation strategy that includes energy efficiency measures and on-site renewable energy generation.

Rooftop solar PV is a key intervention identified across the NHS estate for reducing reliance on grid electricity, lowering operational carbon emissions, and providing long-term cost savings. The proposed installations contribute to improving the Trust's environmental performance while maintaining uninterrupted delivery of critical healthcare services.

3.0 Proposed Development

3.1 Patrick Cryne Building

Use

The Patrick Cryne Building accommodates mainly administrative, research, and educational functions that support the wider hospital operation. Its roof is used for essential building services and maintenance access only. The flat roof offers suitable, low-visibility space for PV installation with no impact on clinical activity.

Visual Impact

The Patrick Cryne Building has a flat roof with a 1.2 m parapet. A roof-mounted ballast-type solar PV system will be installed, with panels angled and the highest equipment 307 mm above the roof. The PV equipment will not be visible from any street elevations.

Layout & Fire & Access

Roof access at the Patrick Cryne Building is provided via the internal staircase and a ladder over the parapet to the south first-floor roof. Both routes will be retained, with an additional ladder connecting the first-floor roof to the ground floor. All escape routes have maximum travel distances under 100 m, meeting Approved Document Part B requirements.

A firebreak is proposed on the east roof, where PV block lengths exceed 45 m, which also facilitate maintenance and personnel access.

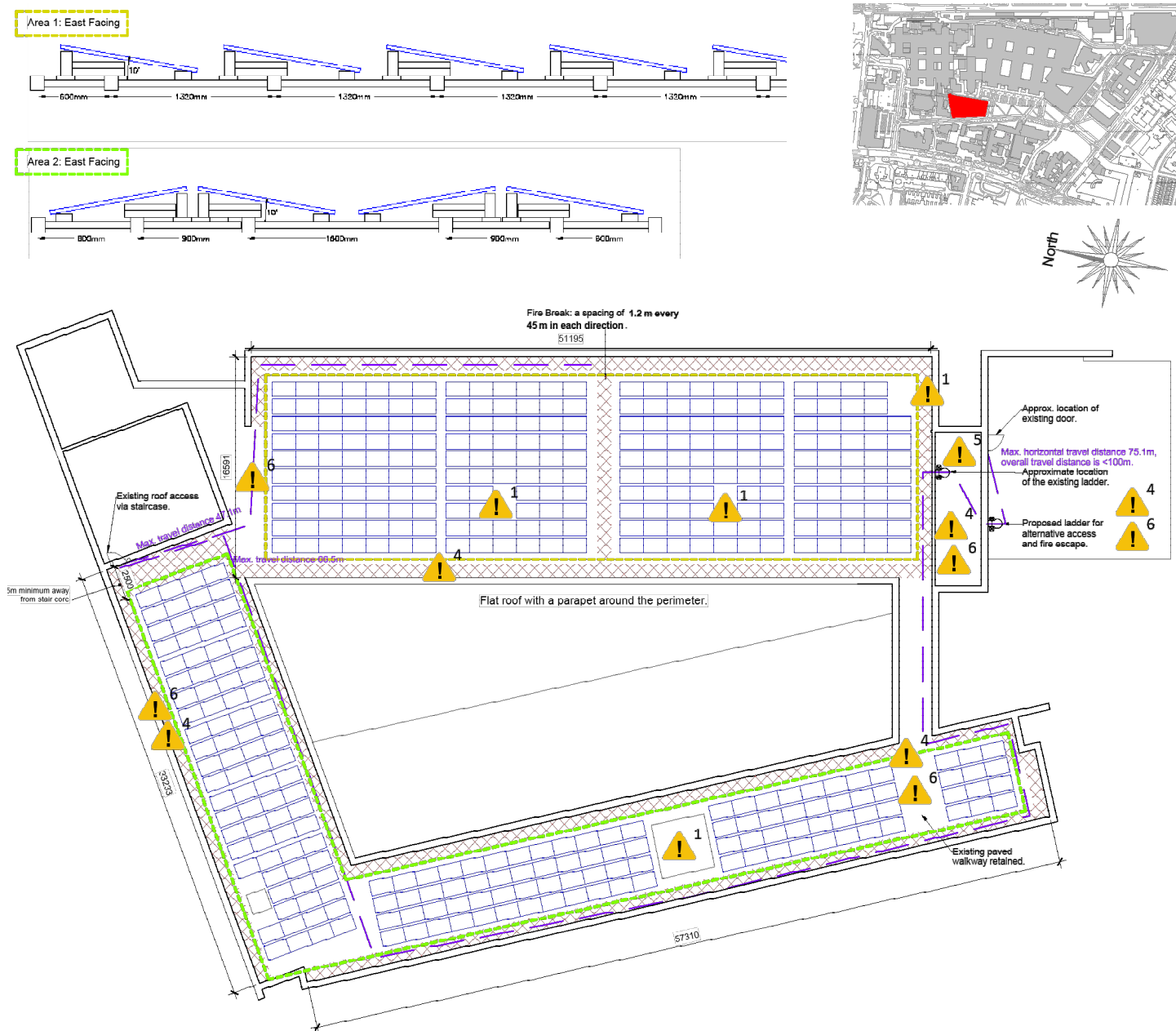


Figure 3.1: Proposed Roof GA Plan - Patrick Cryne Building

3.2 Clinical Science Building 2 (CSB2)

Use

CSB2 contains laboratory, diagnostic, and research facilities that contribute to clinical science and operational healthcare support. Its fourth floor level connects to the roof houses mechanical and ventilation plant and is accessed solely for maintenance. The available roof areas provide appropriate locations for PV panels with limited visual impact.

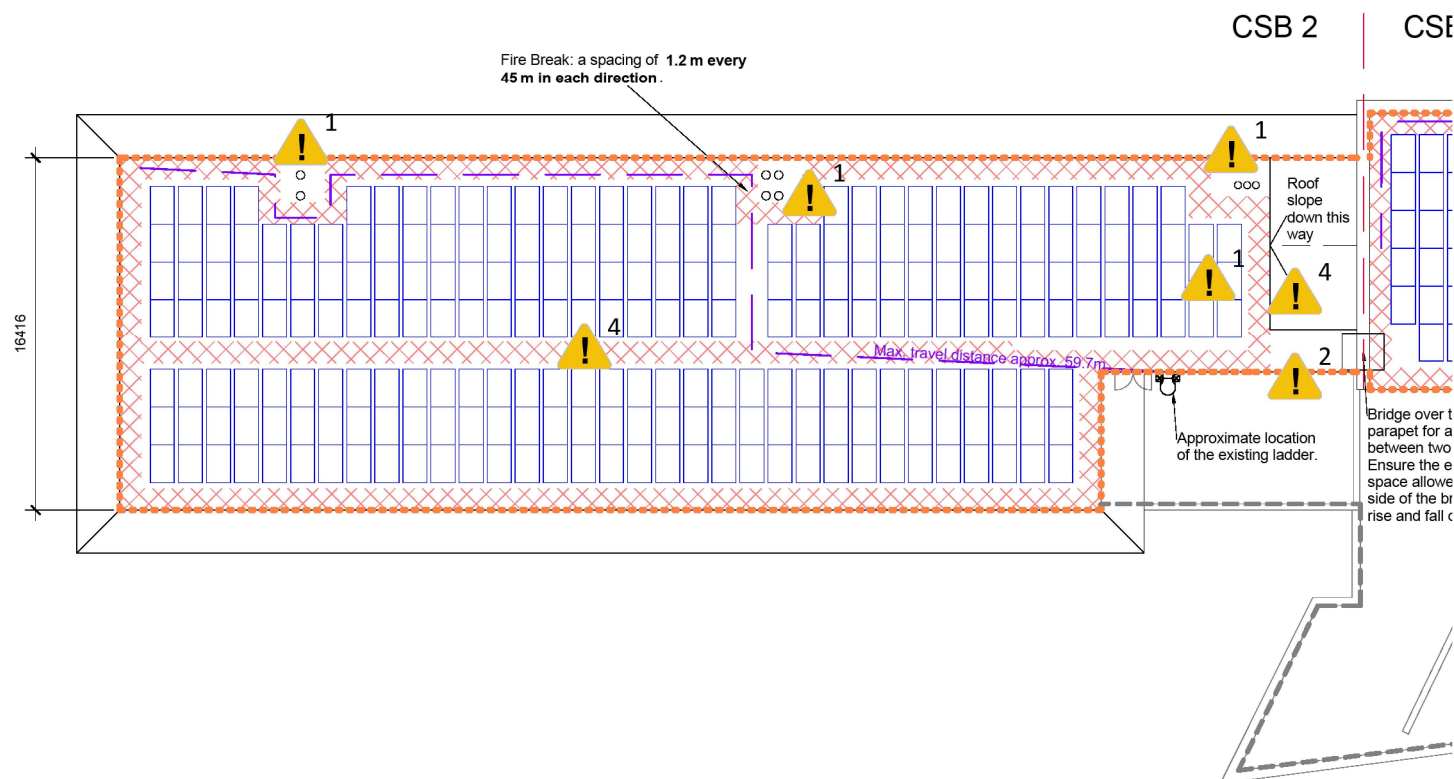
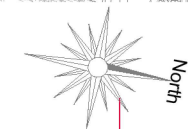
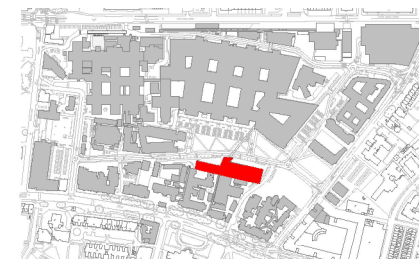
Visual Impact

CSB2 has a roof that slopes downward to the west at approximately 4 degrees. The proposal uses a low-profile, single-rail roof-fixing PV mounting system with a raised height of around 165 mm. All equipment is set back a minimum of 1 m from the roof edges, resulting in low visibility from the west and south elevations only.

Layout & Fire & Access

Roof access to CSB2 is provided via an existing ladder from the lower roof area, which connects to the internal plant area at fourth-floor level. The escape routes have maximum travel distances under 60m, complying with the single-direction travel distance requirements for open plant areas in Approved Document Part B.

A central firebreak is proposed to provide separation between PV blocks where lengths exceed 45 m, which also assists with maintenance and general access.



CSB2 and CSB3 - Proposed Roof GA Plan

Figure 3.2: Proposed Roof GA Plan - CSB2

3.3 Clinical Science Building 3 (CSB3)

Use

CSB3 provides additional laboratory, research, and teaching space as part of the hospital's clinical science cluster. The roof is a service zone for technical plant and is accessed only by authorised personnel. Its height and limited visibility make the roof well suited for a discreet PV installation.

Visual Impact

CSB3 has a roof that slopes downward to the east at approximately 4 degrees. The proposal incorporates a low-profile, single-rail roof-fixing PV mounting system with a raised height of around 165 mm. All equipment is set back at least 1 m from the roof edges, resulting in low visibility from the east elevation and being fully hidden from all other viewpoints.

Layout & Fire & Access

There is currently no permanent roof access to CSB3. The proposal introduces a new ladder from the fourth-floor balcony, which connects to an existing double door providing access from the internal fourth-floor area. The escape routes have maximum travel distances of under 60 m, meeting the single-direction travel distance requirements for open plant areas set out in Approved Document Part B.

A central firebreak is proposed to provide adequate separation between PV blocks where lengths exceed 45 m, which also supports safe maintenance and general access.

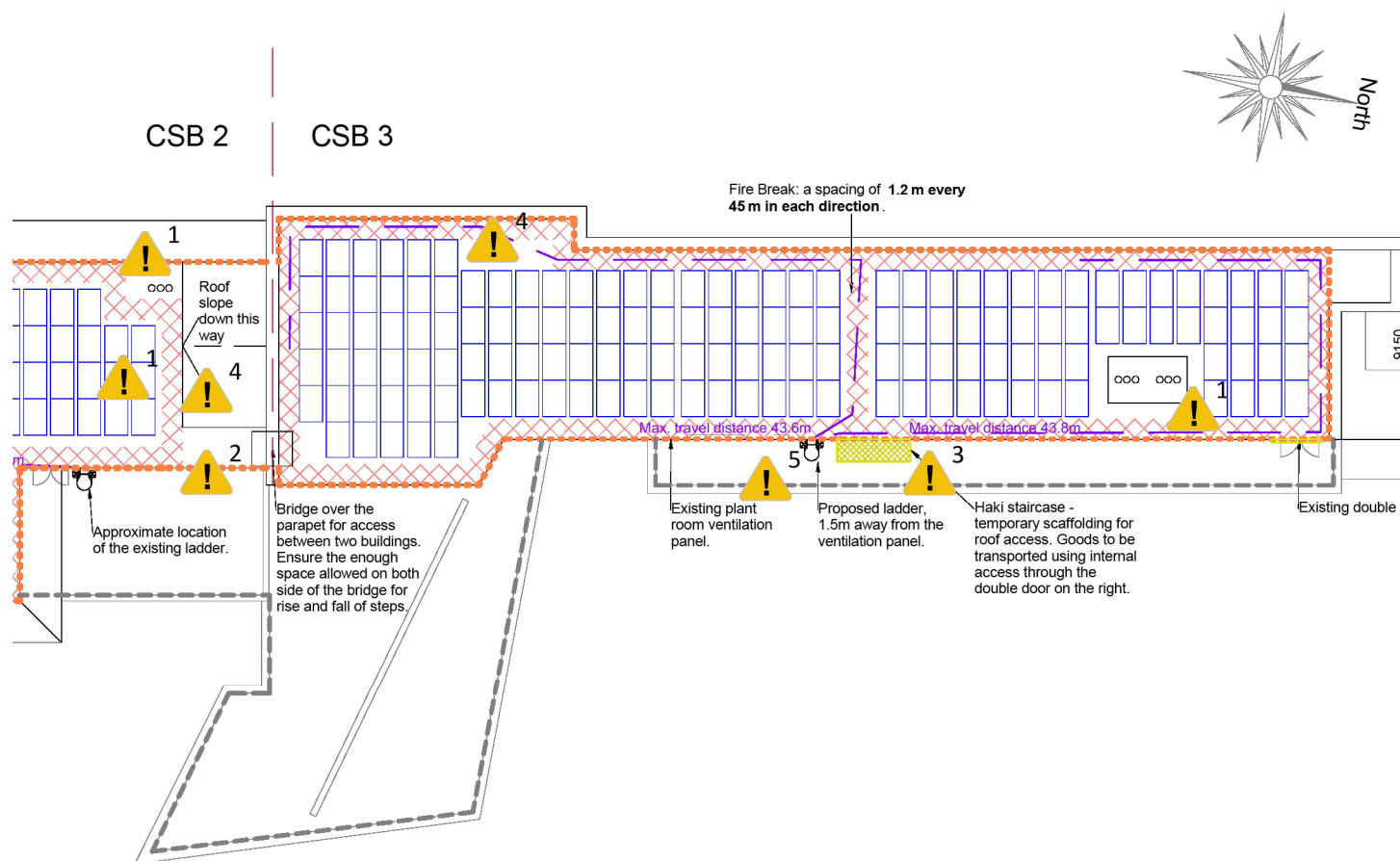
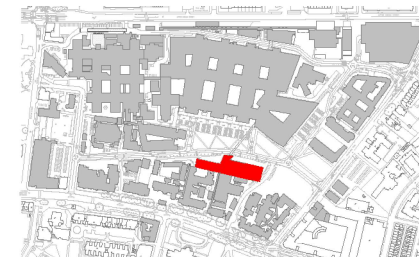


Figure 3.3: Proposed Roof GA Plan - CSB3

3.4 Peter Mount Building

Use

The Peter Mount Building is a key clinical facility with inpatient wards and treatment spaces supporting acute care services. The roof contains critical mechanical equipment that serves patient areas and is tightly controlled for maintenance access. Suitable clear sections can accommodate PV panels without affecting clinical operations or the external appearance of the building.

Visual Impact

Peter Mount Building has three roof zones that slope downward toward the courtyard at approximately 4 degrees. The proposal incorporates a low-profile, single-rail roof-fixing PV mounting system with a raised height of around 165 mm. All equipment is set back at least 1 m from the roof edges, resulting in low visibility from courtyard elevations and most of them being fully hidden from street elevations.

Layout & Fire & Access

Zone A: an existing route from a second-floor double door provides access to the smaller plant area. The handrail and access path will be modified to allow movement between additional roof areas within Zone A. A new looped ladder is proposed to provide alternative access to the lower roof, which connects to the first-floor internal area.

Zone B: there is currently no permanent roof access within Zone B. The proposal introduces two new ladders to connect to the higher roof level, providing compliant access and alternative escape routes.

Zone C: the escape route in this zone leads to the highest roof plant area, requiring a minor step up. An additional looped ladder is proposed to provide access to the lower balcony area, which connects to the first-floor internal area.

All routes will be retained, with an additional ladder connecting the first-floor roof to the ground floor. All escape routes have maximum travel distances under 100 m, meeting Approved Document Part B requirements.

A central firebreak is proposed on the Zone C south roof to provide adequate separation between PV blocks where lengths exceed 45 m. This spacing also helps keep the escape route length within 100 m, ensuring compliance with the applicable fire code requirements.

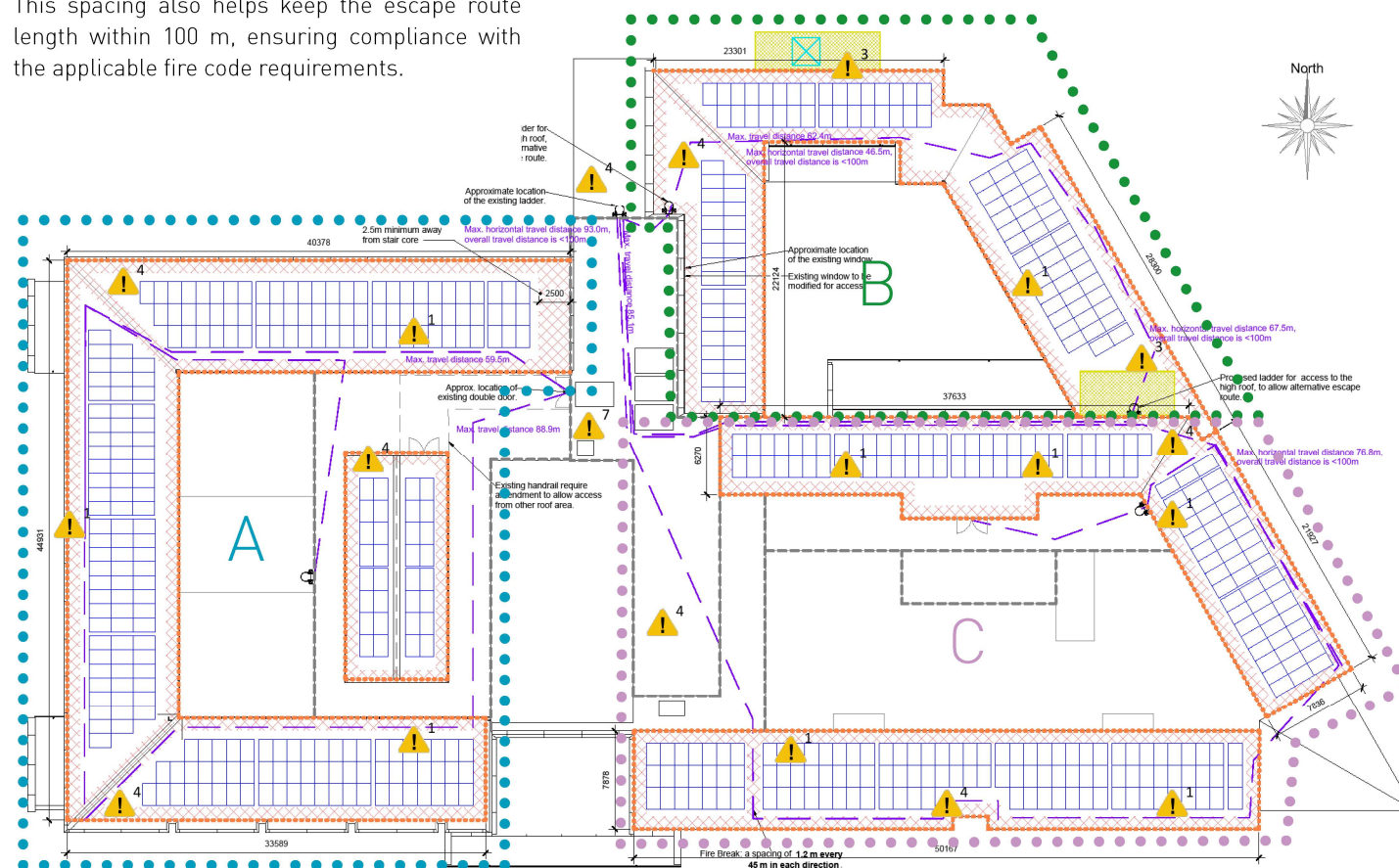
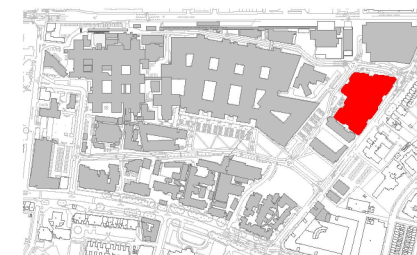


Figure 3.4: Proposed Roof GA Plan - Peter Mount Building



4.0 Roof Safety & Access Strategy

Strategy during works

Patrick Cryne Building and Peter Mount Building will both require external compound and scaffolding together with hoist to allow roof access during works. Hera fencing will be required to secure working area with authorised access only. CSB 2&3 will utilise existing internal access on fourth floor to CSB 3 balcony on and use Haki staircase to transport material and equipments to the roof.

A folding guardrail system is proposed for CSB 2 & 3 and the Peter Mount Building. This will be installed prior to the PV panel installation and will remain permanently in place to facilitate future maintenance and safe roof access. For the Patrick Cryne Building, temporary handrail protection may only be required locally, as the roof is flat and benefits from a surrounding parapet.

Permanent Access Routes

All roofs are designed to have a 1 m clear access path around the PV panel zone, serving as a maintenance safe zone. The area is unobstructed, structurally safe, and suitable for personnel access.

Firebreak gaps (1.2-2.0m) are proposed to roofs where PV block lengths exceed 45 m, in accordance with RC62 – Fire Safety for PV Systems, and it will also facilitate maintenance and personnel access. Any proposal should not interfere with fire-fighting access.

Bird Mitigation

The proposal will provide continuous bird exclusion mesh around PV array perimeter, fabricated from UV-stable stainless steel, 25 mm aperture, fixed to PV module frame with non-penetrative clips. Maintain clear ventilation and drainage under modules.

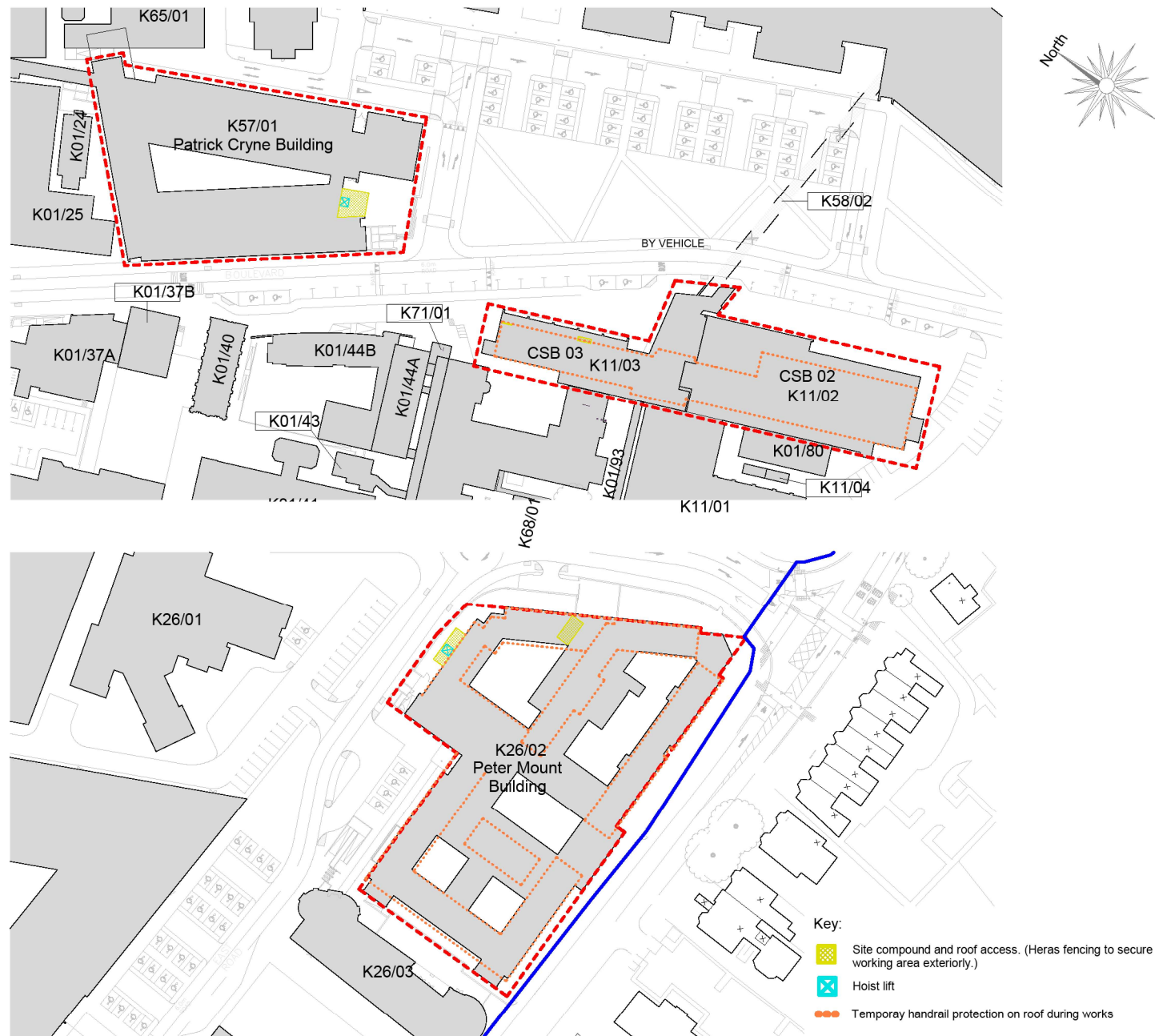


Figure 4.0: Proposed Logistic Site Plan

5.0 Glare and Glint Assessment

NHS helipad

The helipad is located on the roof of the multi-storey car park on Grafton Street. Of the buildings included within this proposal, the Patrick Cryne Building is the closest, positioned approximately 170m to the south of the helipad, with CSB2 and CSB3 situated further to the south-west. The Peter Mount Building is the furthest from the helipad and lies outside the extent of the NHS provided site plan.

Assessment and Report

Arup has carried out a Glint and Glare assessment in accordance with current CAA and FAA guidance to evaluate the potential impact of the proposed solar photovoltaic (SPV) installation on helicopter pilots operating at the Manchester Royal Infirmary (MRI) helipad, specifically in relation to reflected solar glare.

The assessment has been undertaken in two stages:

- Stage 1 - Geometric modelling: Modelling of reflected sunlight and intersection with flight paths and ground viewing positions to establish when and where reflected sunlight from the SPV panels has the potential to enter the cockpit of the helicopter. Geometric modelling does not quantify the risk of glint and and/or glare, but identifies the potential for any risk of reflected solar glare.
- Stage 2 - Solar Glare Hazard Analysis Tool (SGHAT) analysis tool: Quantification of risk level of glint and/or glare for the take-off and landing activities with a solar glare hazard analysis.

This document provides a detailed site-specific analysis of the potential for reflected sunlight from the proposed SPV installation and whether

this could constitute a risk to the helicopter flight paths.

Please refer to details in Arup's report, which will be shared with planning officer together with this Design and Access Statement.

- MRI Helipad - Glint and Glare report Issue 2
- Appendix A

Conclusion

Following the discussions and meeting held on 13 February 2026, we collectively agreed to incorporate the proposed mitigation measures into the final design. The relevant drawings and reports have now been updated accordingly.

Following these amendments, the updated SGHAT assessment has concluded that there is a low potential for temporary after-image effects for all assessed SPV arrays and flight paths. In particular, the adjustment to PCB05 (the west-facing SPVs), which are now reoriented to face east, is considered to effectively mitigate the previously identified potential for after-images.

Based on the findings of the revised assessment and this addendum, no further mitigation measures are considered necessary for the proposed solar photovoltaic (SPV) panels on the roofs of the Patrick Cryne Building, Clinical Science Building, and Peter Mount Building, in accordance with the latest CAA and FAA guidance.

6.0 Particular Technical Considerations

Structural Consideration

A structural feasibility review undertaken by Bell Munro confirmed that the existing building structures can accommodate the proposed PV installations, subject to standard final design checks.

The assessment demonstrates that the roof slabs, metal decks and supporting steelwork possess adequate capacity for the additional PV loads, while the PV supplier's certified wind-uplift and ballast design will ensure the arrays remain stable under local wind conditions.

On the flat Sarnafil-covered roof areas, the scheme adopts a non-penetrative, load-spreading approach to protect the waterproofing, and on standing-seam roofs the fixing strategy engages recognised structural members without compromising the roof system.

Final installation will be informed by on-site verification of roof build-ups, purlin and deck gauges, and completed under structural engineer sign-off to ensure full compatibility with the existing roof types and to prevent any damage to the building fabric.

*Structural feasibility reports for each building is available upon request.

Electrical Consideration

The work comprises of the design, supply, installation, testing and commissioning of the solar PV installation, delivery to site, cabling at site between the solar PV equipment and the agreed point of connection to the client electrical system.

The solar PV system shall connect to the site electrical installation at the nominal site voltage with the following characteristics.

Supply Characteristics:-

- Supply Voltage: 400V (+10/-6%), TPN & E
- Frequency: 50Hz ($\pm 1\%$)

The solar PV system shall ensure the electrical supply characteristics from the system are within the limits set out above.

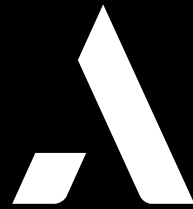
*The Electrical Specification report for each building is available upon request.



7.0 Conclusion

The proposed installation of photovoltaic (PV) panels across selected roofs at Manchester Royal Infirmary supports MFT's commitment to sustainability and innovation. The project will deliver major environmental benefits, and its successful implementation will represent a significant step toward reducing the Trust's carbon footprint. The PV arrays have been designed to have minimal visual impact and fully comply with safety, glare, fire, and structural guidance, ensuring a safe and maintainable solution.

Careful planning ensures there will be no adverse effects on hospital operations or the public realm. Given the clear sustainability advantages, low visual and operational impacts, and full regulatory compliance, the proposal is considered appropriate and is recommended for approval.



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