Preliminary Design Risk Assessment

Douglas Carroll Consulting Engineers

Air Conditioning Installation

Seahorse and Orchid Wards

At Cork University Hospital

For

Health Service Executive

Project no.	**W26-048**				
Project Title	**Air Conditioning Installation – Seahorse and Orchid Wards at CUH**				
Client.	**Health Service Executive**				
Date of Issue:	**October 2026**	Issued For	**Tender**	Rev	------

REVISION SHEET

Preliminary Design Risk Assessment

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@
Cork University Hospital

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Rev	Date	Description	Approved
0	13.10.2026	Issue for Tender	T.C.

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	Prepared	DA	**Checked**	TC
	Design Stage	Tender	**Sheet**	3 of 6

A: Scheduled Risks	**Applicable**	**Probability**	**Severity**	**Decisions/ Actions**
1. Work which puts persons at work at risk of burial under earthfall.	No	n/a	n/a	Not Applicable
2. Work which puts persons at work at risk of falling from a height.	Yes	2	4	The adoption of industry standard best practice working at height safety measures will minimise this risk.
3. Work which puts persons at risk from chemical or biological substances constituting a danger to the safety & health of such persons.	Yes	2	4	Appropriate control measures shall be implemented for exposure to hazardous chemical and biological substances, including refrigerants, construction dust and suspected asbestos-containing materials, in accordance with the Preliminary Safety and Health Plan.
4. Work with ionising radiation requiring the designation of controlled or supervised areas.	No	n/a	n/a	Not Applicable
5. Work near high voltage power lines	No	n/a	n/a	Not Applicable
6. Work exposing persons at work to the risk of drowning.	No	n/a	n/a	Not Applicable
7. Work on wells, underground earthworks and tunnels.	No	n/a	n/a	Not Applicable
8. Work involving the use of explosives.	No	n/a	n/a	Not Applicable
9. Work involving the assembly or disassembly of heavy prefabricated components.	No	n/a	n/a	Not Applicable

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B: Non-Scheduled Risks	Applicable	Probability	Severity	Decisions/ Actions
1. Scaffolding Standard	Yes	2	4	Where scaffolding is required for high-level works, it shall be erected, inspected and used by competent persons in accordance with applicable safety requirements. Suitable loading conditions shall be verified and hospital access and emergency escape routes shall be maintained.
2. Scaffolding – Non-standard.	No	n/a	n/a	Not Applicable
3. Work in Confined Spaces	No	n/a	n/a	Not Applicable
4. Work on near/Existing boundaries &/or Existing Structures	Yes	2	3	Existing structures and concealed services shall be verified before drilling, coring or forming penetrations. Structural adequacy of existing roof supports and any affected loadbearing elements shall be assessed before installation or alteration. Fire compartmentation shall be maintained or reinstated following service installation.
5. Exposure to Silica Dust during Drilling, Coring & Cutting Works	Yes	2	3	Drilling, coring and cutting of existing building fabric may generate silica dust. Intrusive works shall be minimised, with suitable dust extraction, suppression and containment measures implemented to prevent dust migration into adjacent occupied hospital areas.

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6. Roof Related work	Yes	2	4	Roof level works shall be undertaken using suitable access equipment, edge protection and fall prevention measures. Safe installation and positioning of outdoor units and associated services shall be ensured.
7. Work on Roof(s) existing/New required	Yes	2	4	Existing roof construction, access arrangements and loading capacity shall be verified before installation. Roof waterproofing shall be protected, with suitable access and clearances provided for future maintenance.
8. Work on/near areas of fragile roofing	No	n/a	n/a	Not Applicable
9. Crane Lift/Multiple Crane Lifts	Yes	2	4	Suitable lifting arrangements shall be established for the outdoor units, with equipment weights, access routes, structural loading and exclusion zones verified before lifting operations.
10. Work on/near Existing Asbestos Containing Materials	Yes	2	4	Affected external panels at Orchid Ward are presumed to contain asbestos and shall be removed by a specialist contractor. Hospital asbestos register shall be checked before intrusive works, with appropriate asbestos management and removal measures implemented.
11. Occupied Building	Yes	2	3	CUH shall remain operational during the works. Work areas shall be segregated

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				from patients, staff and visitors. Noise, dust, deliveries and shutdowns shall be coordinated with CUH. Works shall be undertaken within the agreed working hours. Emergency routes shall remain unobstructed, with cleaning and reinstatement completed before daily handback.
12. Risk of Aspergillus / Infection from Construction Dust	Yes	2	4	Drilling, cutting and ceiling works may generate dust and increase infection risks. Suitable containment, dust extraction, HEPA vacuum cleaning and daily reinstatement shall be implemented in accordance with the Preliminary Safety and Health Plan and agreed hospital infection-control requirements.
13. Particularly High-Risk Individuals	Yes	2	4	Appropriate segregation, dust and noise controls shall be maintained to protect vulnerable hospital occupants. Work activities and access arrangements shall be coordinated with CUH to minimise risks to patients, staff and visitors.
14. Work on Existing Live Hospital Services	Yes	1	4	Existing electrical, heating, water, ventilation, medical gas and life-safety services shall be identified before intrusive works. Necessary isolations and modifications shall be authorised and

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				coordinated to maintain hospital services, with affected systems tested and reinstated before handback.
15. Refrigerant Leakage / Exposure and Pressure Testing	Yes	2	4	Refrigerant selection, system charges, pressure limits and leakage safeguards shall be verified for the Hybrid VRF and standard split systems. Pressure testing, leak testing, evacuation and charging shall be undertaken by competent personnel using suitable equipment and safety precautions.
16. Condensate Drainage and Slip Hazards	Yes	2	3	Condensate drainage from indoor units, HBCs and applicable outdoor units shall be routed to suitable drainage points. Adequate slopes and discharge arrangements shall be provided to prevent ponding, icing and slip hazards, particularly around the ground-mounted Orchid unit.
17. Statutory Inspections of M&E Installations	Yes	1	3	The main requirement is adequate space to enable inspections to be safely conducted.
18. Cleaning of M&E Installations	Yes	2	3	Safe access shall be provided for cleaning filters, coils, drains and controllers. Suitable cleaning methods and manufacturer requirements shall be followed, with electrical components protected from

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				moisture and incompatible cleaning substances.
19. Routine Plant Maintenance	Yes	2	3	Safe maintenance access, adequate service clearances, isolation points and equipment replacement routes shall be provided for outdoor units, indoor units and HBCs. Relevant maintenance requirements and residual risks shall be recorded in the Safety File.

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	Probability (expected frequency)			
Severity	**Unlikely (1)** Improbable events	**Occasional (2)** Sporadic events	**Likely (3)** Several events	**Frequent (4)** Regular events
Minor injury (1)	1	2	3	4
Non- Reportable injury (2)	2	4	6	8
Reportable injury (3)	3	6	9	12
Major injury (4)	4	8	12	16

Key:	
	Low Risk (0-5)
	Moderate Risk (6-10)
	High Risk (11-16)

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