

Manchester Art Gallery

Written Scheme of Investigation for removal and replacement of Roof Lantern



Project Name:	Manchester Art Gallery
Project Code:	
Site Location:	Manchester Art Gallery, 75 Mosley Street, Manchester M2 3JL
Planning ref:	137014/VO/2023 – 137015/LO/2023
NGR:	SJ 84073 98041
Document Title	Written Scheme of Investigation for Evaluation at Manchester Art Gallery, Manchester
Document Type	Written Scheme of Investigation
Version:	V3.0
Prepared for:	Robertson

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Date:	6 th May 2024	

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1.0 Introduction

This Written Scheme of Investigation (WSI) has been prepared in response to the conditions of planning, as stipulated by Manchester City Council, following the conditional approval of planning applications 137014/VO/2023 – 137015/LO/2023.

The historical significance of the roof lantern and its immediate decorative surroundings, internally, have been stated due to the proposed works affecting the building, which is included in the Statutory List of Buildings of Special Architectural or Historic Interest, and the attention to detail in protecting the character and appearance of the listed fabric, will be subject to a watching brief before, during and immediately after the works are carried out on the roof lantern.

The WSI will outline the proposed methodology of removal, its design, current photographs and, following the watching brief, will issue a full photographic record, (before, during and after). It will detail the protection of immediate surrounding decorative features internally, methodology of removal and replacement, and reporting following said works, to ensure an archival record is produced.

This WSI is written in line of guidance from Historic England and the Management of Research Projects in the Historic Environment (MoRPHE) principles of Threat-Led Research, i.e. where research and observation are triggered by planning permission for a proposed building development, which potentially puts historic assets at risk.

1.1 Background of Project

Manchester City Council have proposed several phases of renovation work to improve the Art Gallery.

Safety, maintenance and water ingress issues around the current lantern light have been highlighted, with the opportunity to replace, allowing improvement in the maintenance, eradicate water ingress and improve the thermal performance of the glass within. This will improve lux levels for the collections and create a more comfortable environment for visitors, staff and objects.

1.2 Purpose of Document

This WSI focusses on the removal and replacement of the existing roof lantern, within the main entrance hall of the gallery.

The full and final details of design, materials and methodology of installation are included within this document.

A watching brief methodology is also included.

1.3 National and Local Planning Policies

The design and methodology of replacing the roof lantern, is completed in accordance with the National Planning Policy Framework ('NPPF'), which sets out the Government's planning policies and of how they are to be applied.

Chapter 16: Conserving and enhancing the historic environment sets out the following:

Paragraph 130: States that will *'function well and add to the overall quality of the area, are visually attractive as a result of good architecture, layout and appropriate...are sympathetic to local character and history'*.

Paragraph 199: States that *'when considering the impact of a proposed development on the significance of a designated heritage asset's conservation'*.

The design and methodology of replacing the roof lantern is done in accordance with Manchester City Council's Core Strategy, which sets out the following policies:

Policy SP 1: Spatial Principles state a key principle shall be *'The Regional Centre will be the focus for economic and commercial development, retail, leisure and cultural activity, alongside high-quality city living.'*

Policy EN 3: Heritage. This policy states that *'...the council will encourage development that compliments and takes advantage of the distinct historic and heritage features of its districts and neighbourhoods, including those in the city centre.'*

Policy DM 1: Development Management. This policy states that *'All development should have regard (for):*

- *Appropriate siting, layout, scale, form, massing, materials and detail*
- *Impact on the surrounding areas in terms of design, scale and appearance of the proposed development. Development should have regard to the character of the surrounding area.*
- *Effects on amenity, including privacy, light, noise, ...*
- *Design for health.*

2.0 Aims and Objectives

2.1 Research Aims

To provide a full and detailed history, account of the works, design, methodology and a full and accurate recording of the building, will be provided for archival purposes.

Strip out works will be provided, fully detailed, and submitted in the methodology in 3.2.

2.2 Objectives

The principal objectives of the WSI are:

- To record, as far as is reasonably possible, the location, extent, condition, significance and quality of the current roof lantern and its immediate internal surroundings
- To provide sufficient information to enable an informed decision on planning conditional discharge
- Produce a full report on findings of the evaluation
- To produce an archive for the project
- To make available results of the work

3.0 Method Statement

The area of the roof lantern will be photographed and recorded from both roof level and from the ground, within the art gallery. The external recording will include roof void photographic evidence.

On the erection of the internal scaffolding and crash deck, a full recording and measurement survey will take place, prior to protection covering to the internal decorative wainscotting, immediately beneath the roof lantern.

Strip out works will commence, based on the contractor's methodology in 3.2, and in appendix A1, below and end of document.

3.1 Evaluation

Evaluation and recording of the current condition of the area, internally and externally, will be completed with written notes and photographic evidence. Potential risks will be identified, if extant, with the Project Manager and mitigations implemented.

3.2 Methodology of removal

The removal of the existing roof lantern presents logistical challenges to the operation of the gallery, with the added traffic management issues around Nicholas Street and Mosley Street.

This has been mitigated with a full logistics plan by the contractor, appended to this document, in A1.

Accessibility to the gallery will not be compromised and alternative door access will be opened and utilised by construction operatives, for the duration of the works

3.2.1 Public and Traffic

In accordance with the agreed Highways Management Plan, the adherence will be continued throughout the roof lantern removal phase. The physical segregation of the public, traffic and pedestrians, within and without the gallery buildings, will be achieved using hoarding and dedicated routes for construction personnel and materials. This entails:

- 3m high timber hoarding to Nicholas Street, separating traffic from works personnel
- Hoarding within the ground floor of the Victorian Square, segregating public access from Mosley Street entrance, from construction works
- Opening of existing door to Gallery 1, Nicholas Street, for sole use of construction operatives and movement of materials
- Site cabins for personnel welfare are maintained behind hoarding

3.2.2 Building Fabric Protection

During works, the risks of damage to the historic fabric, both internally and externally, have the potential to be damaged by the movement of materials, personnel and direct works.

These include:

- Mechanical impact or abrasion
- Water
- Vibration
- Chemicals
- Environmental factors
- Fire (including 'hot works')
- Inappropriate work
- Security to scaffolds (non-authorised access)

Moveable objects within the location will be removed from the vicinity and stored securely, including pendant light fittings, statues and fixtures and fittings that are at risk of damage.

On completion of hoarding erection, the building fabric will be protected by:

- Breathable felt
- Impact board – 100% recycled corrugated plastic sheets (comparable to plywood for impact resistance)

Both will offer protection, in line with Historic England's guidelines of:

- Flexibility / rigidity
- Impact resistance
- Weight
- Ease of fixing
- Liquid and vapour permeability
- Fire retardance
- Ease of disposal
- Sustainability and recyclable

Protection covering internal wainscoting, directly beneath the lantern, will be clearly signposted to alert construction workers for the need for extra caution i.e. no resting points for materials or fixings.

This protection will be attached accordingly, with no direct fixing to decorative features, but affixed with low tack tapes, beyond the feature, within the rebate. This will not only protect the feature and decoration, but also allow moderate air flow.

The works will be subject to watching brief throughout the period and toolbox talks issued to all construction personnel.

Unsafe work practices or works deemed to have potential to damage the fabric, will be paused until rectification can be implemented.

3.2.3 Temporary Roof

During works to the lantern the scaffold will have a temporary cover, to protect the building from environmental factors during works and protect construction workers from inclement weather.

3.2.4 Scaffolding

Scaffolding will be erected for the duration of the roof lantern works, which will be both external and internal.

The external scaffold will be erected to the northeast and southwest elevations of the art gallery (either side of Mosley Street entrance), cantilevering above, between the two, creating a working platform across the roof space. (see figures 7 & 8 for scaffold design detail)

A temporary roof covering will be installed prior to existing roof lantern removal.

A hoist will be attached to the external scaffold, for the safe and controlled removal of existing and the lifting of new components, into place.

Internally, the scaffold will create access within the atrium, with safe and secure working platforms and the erection of a crash deck, to prevent damage to the interior in the event of falling debris.

All scaffolding will be secured to prevent unauthorised access behind hoarding.

3.2.5 Construction Environmental Management Plan (CEMP)

The works detailed fall into the Construction Environmental Management Plan (CEMP) of the entire project, for minimising the creation of noise, vibration and dust, during the proposed removal and replacement of the roof lantern.

3.3 Context Recording

The recording of the existing roof lantern will be documented with measurements, descriptive narratives and photography, numbered sequentially. This will be appended with historic drawings, photographs and with architectural drawings of proposed.

3.4 Photography

All photography will be numbered, dated and timed, within the limitations of physical access of the roof and safety measures.

3.5 Drawings

All drawings associated with the work, prior to works are presented as figures at the end of this document.

4.0 Health and Safety

Full regard will be given to all constraints during the works period and for the duration of the watching brief. Health and Safety legislation, CDM regulations and codes of practice will be respected.

Lantern Heritage will provide a Health and Safety Statement, submitted to the Project Manager of Robertson's, prior to the watching brief beginning.

4.1 CDM

Construction (Design & Management) Regulations (2015) will be fully adhered to, and the consultant will undertake site induction before works commence.

4.2 PPE

Personal, Protective Equipment (PPE) will be always worn whilst on site and the consultant will be supplied with:

- Safety Helmet (EN397)
- Ear Defenders (EN352-3)
- Safety Spectacles / goggles (EN166)
- Dust Mask (EN149 2001)
- Overalls (Type 5/6 disposable EN340)
- Gloves
- Safety Footwear – steel toecap and mid-sole (EN345-47)

4.3 Access

Reasonable access to the area will be granted to the consultant, who wishes to be satisfied, through regular inspections, that the scope and practice of works are being conducted according to

professional standards and in accordance with agreements made within the Written Scheme of Investigation. Full notes and a photographic record will be recorded and form part of the report.

5.0 Watching Brief

The watching brief will take place during all works to the roof lantern and the consultant shall be in attendance throughout this time.

5.1 Monitoring

The aims of the monitoring are to ensure that the works are undertaken within the limits set out in the Written Scheme of Investigation, and to the satisfaction of the consultant, acting on behalf of Robertson Group Ltd., in the capacity of Heritage Advisor, in relation to the planning conditions laid out by Manchester City Council Planning Authority.

5.2 Site Visits

Site visits during scaffold erection and dismantling will be done in agreement with the Project Manager, Robertson Group Ltd.

Post-project site visit to record completed works will be included, to satisfy the planning conditions and advise on potential rectification works, if required.

5.3 Working Hours

Normal working hours are variable between 8.00 am and 5.00 pm, Monday to Friday. It is not normal for consultants to work weekends or bank holidays, and should the client require such time to be worked, for completion of the project, a contract variation to cover additional costs will be submitted.

5.4 Insurance

Lantern Heritage has professional indemnity to the value of £2m and public liability to the value of £5m. Written details of insurances can be provided if required.

6.0 Report and Archive

A draft copy of the evaluation report will be submitted for comment to Robertson Group Ltd., within eight working weeks of completion of the watching brief. This will present all documentary evidence of the works and completed roof lantern.

Photographic evidence of works will be submitted in dated index format, appended with architectural and fabrication drawings.

Archive material will be formatted to current Historic England guidelines, for submission to the relevant local bodies for historical referencing.

It is likely that a large element of the archival material will be in digital format and any hard copy will be scanned and added to this.

7.0 List of Figures

Fig 1: Historic entrance hall drawing, showing internal decoration

Fig 2: Historic drawing of elevations and construction of gallery entrance

Fig 3: Photograph of current roof lantern, showing dilapidation and water ingress

Fig 4: Photograph of roof access, internal view of timbers and plaster & lathe

Fig 5: Architectural drawing of roof lantern replacement, ariel view

Fig 6: Architectural drawings of roof lantern replacement, elevations and internal detail

Fig 7: Internal scaffold design, including crash deck and protection of scaffold tubes

Fig 8: External scaffolding design

8.0 Appendix

A1: Roof Lantern removal methodology

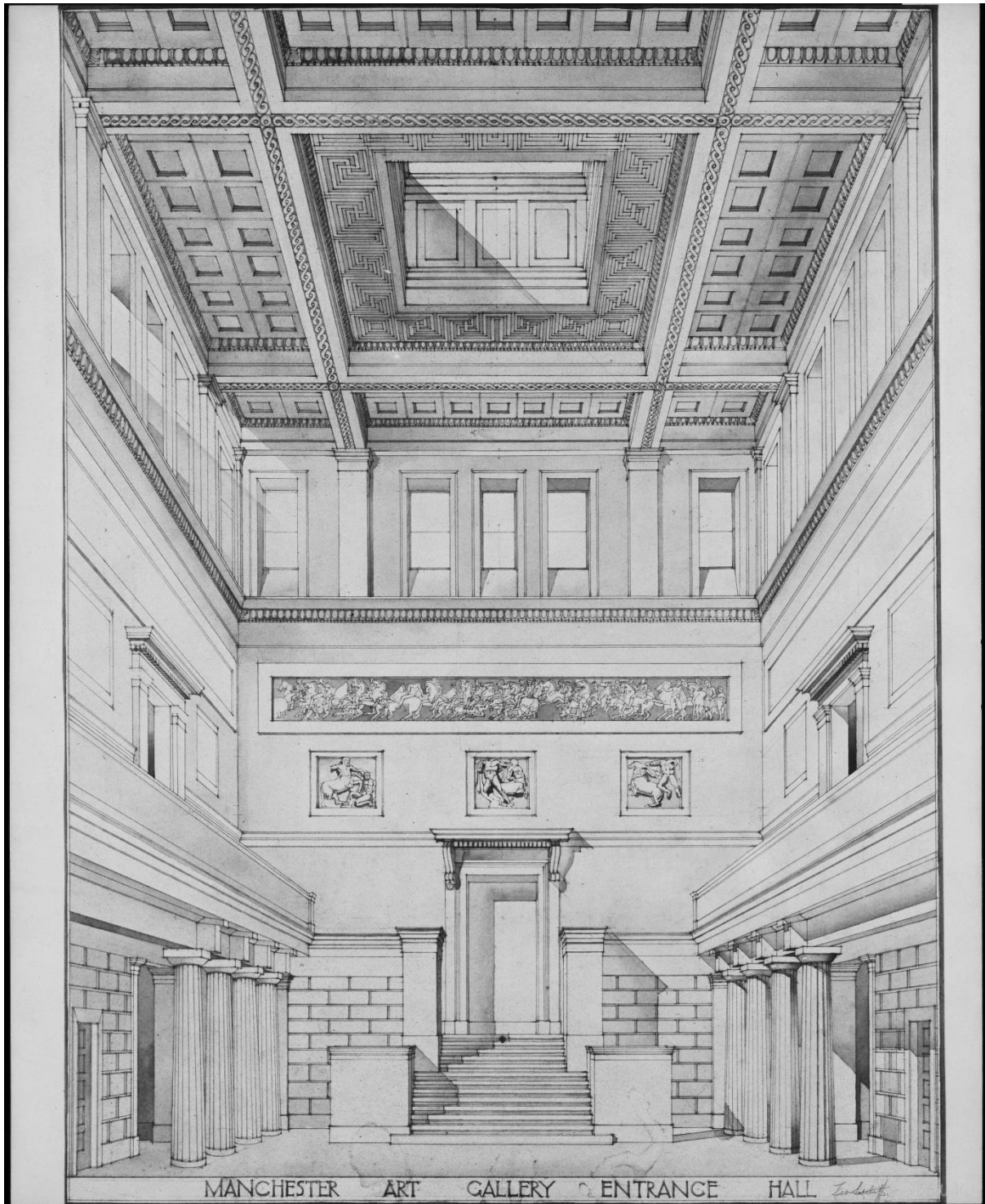


Fig 1: Drawing of entrance hall, showing moulded reliefs to elevations and decorative wainscoting. (1915). Copyright 2024 Historic England Archive.

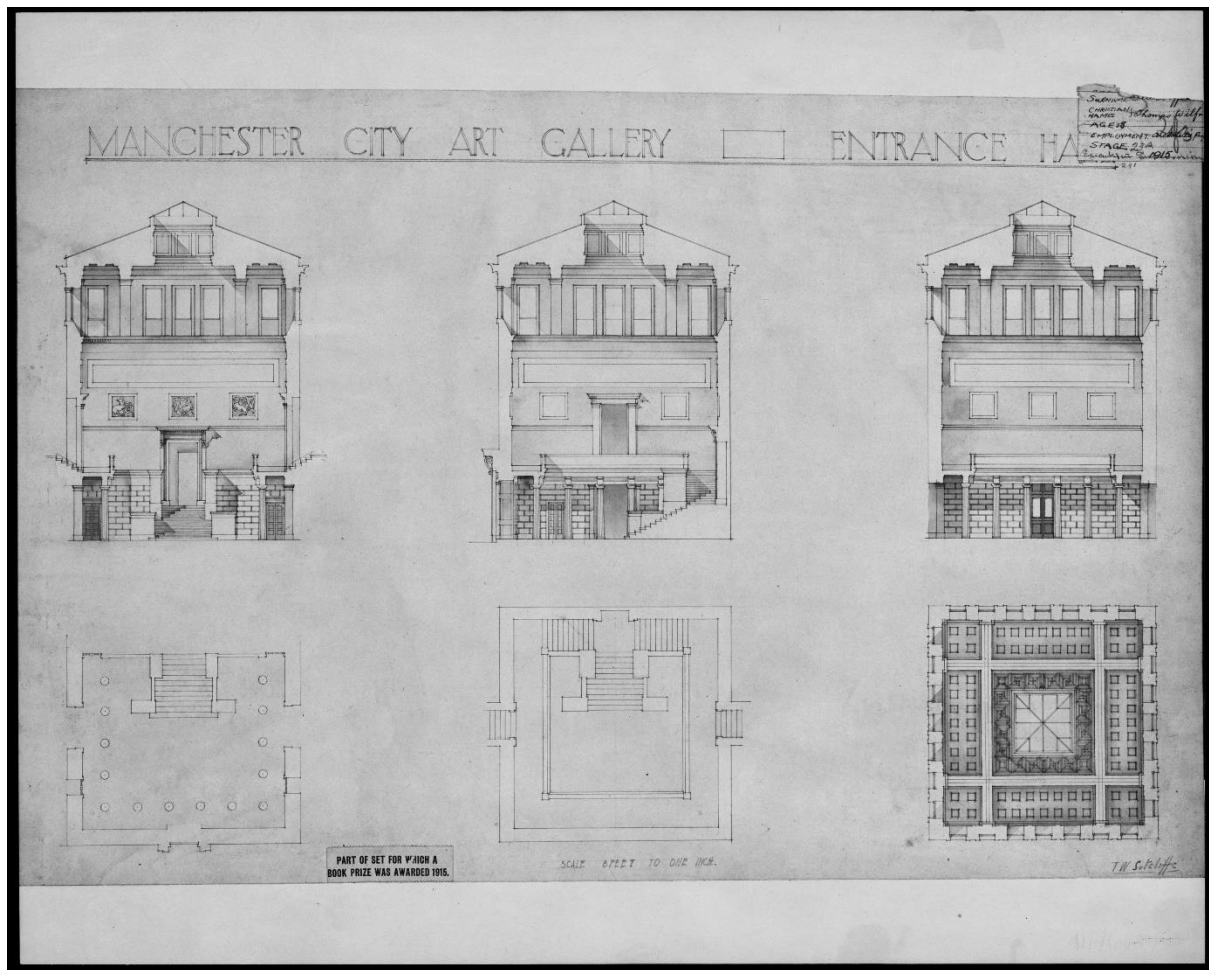


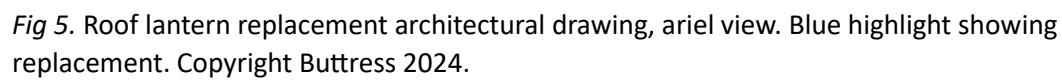
Fig 2: Scale plan of entrance hall, showing elevations and structure of roof lantern, including decorative detail. (1915). Copyright 2024 Historic England Archive.



Fig 3. Current roof lantern, showing failure of louvres frame and water ingress. Photo by Robertson Group Ltd. 2024.



Fig 4. Internal roof space, showing timber ring beam and plaster & lathe construction. Photo by author 2024.



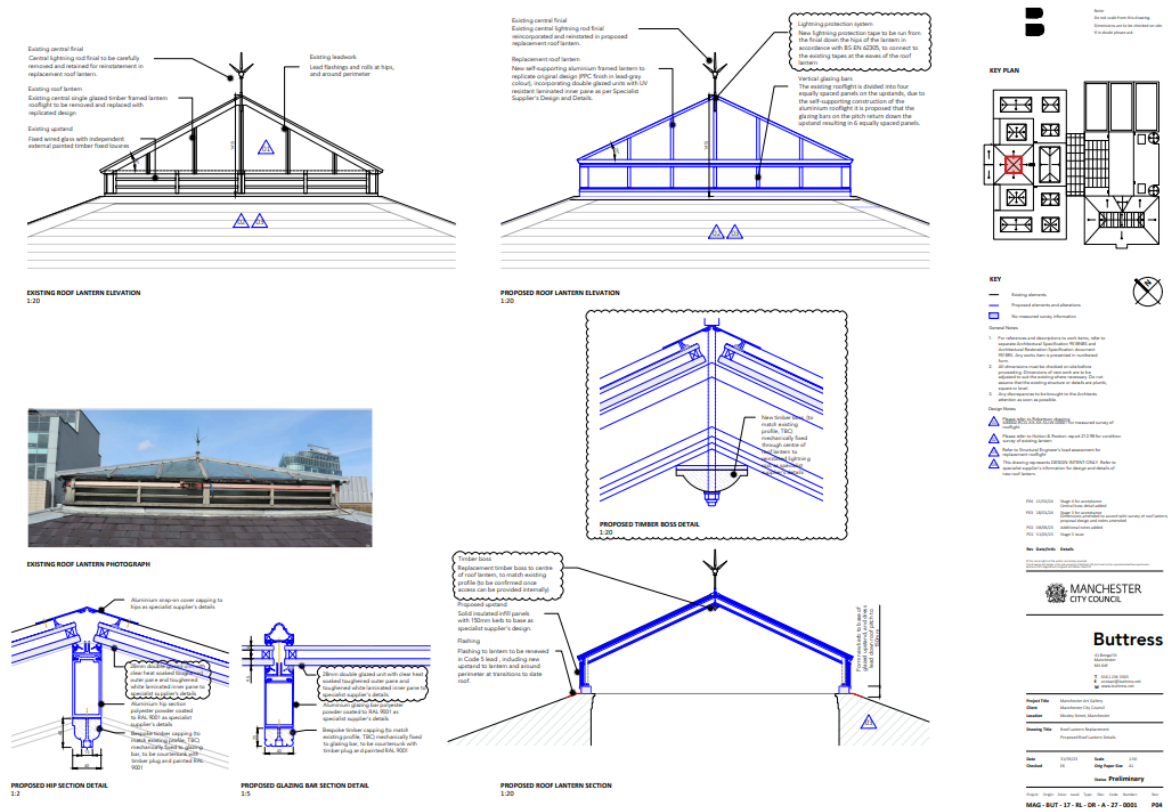


Fig 6. Roof lantern replacement detail, elevations. Copyright Buttress 2024.

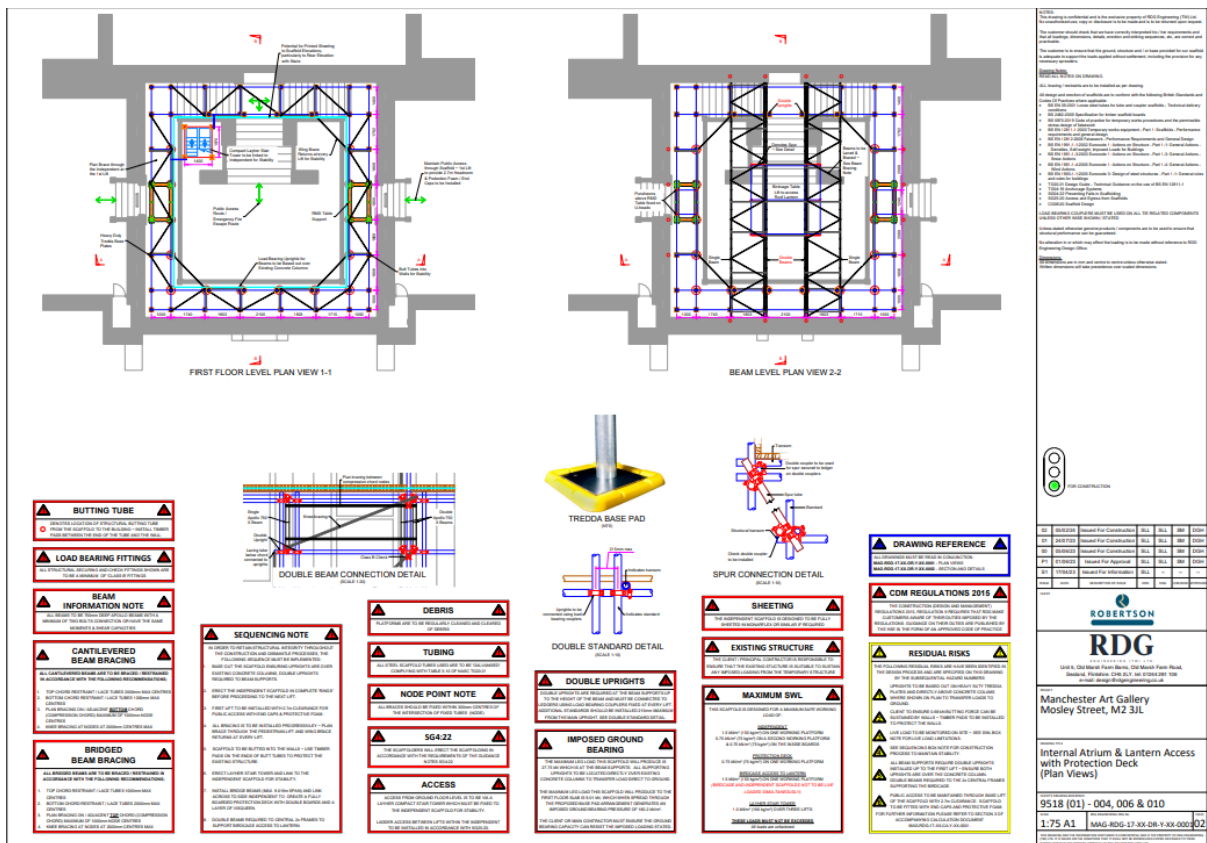


Fig 7. Scaffold design, internal, including tube protection. Construction issue. Robertson Group Ltd. 2024

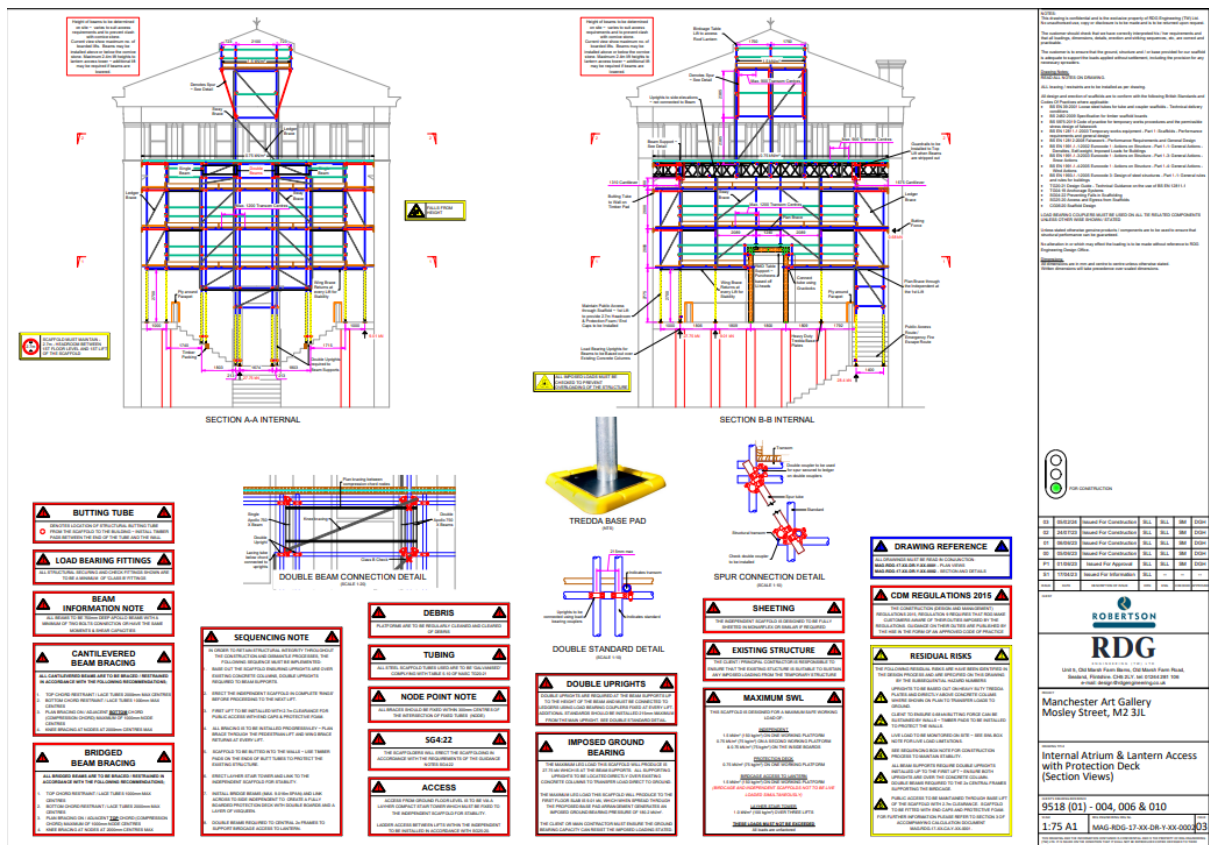


Fig 8. Internal scaffolding to entrance hall, showing crash deck and tube protection methodology. Robertson Group Ltd. 2024

Appendix A1

Roof lantern replacement methodology:

The greatest challenge with this project is the logistics involved with gaining access to the lantern whilst the gallery remains open and live to the public, does not impinge on the daily gallery operations to greatly, allows the access ramp to remain operation, fire exits not blocked or compromised, has no detrimental effect of the listed building and also allows safe access for operatives and materials to carry out the works.

We have considered many options of how to complete this work with the following being the agreed strategy and methodology.

Public and Construction Segregation:

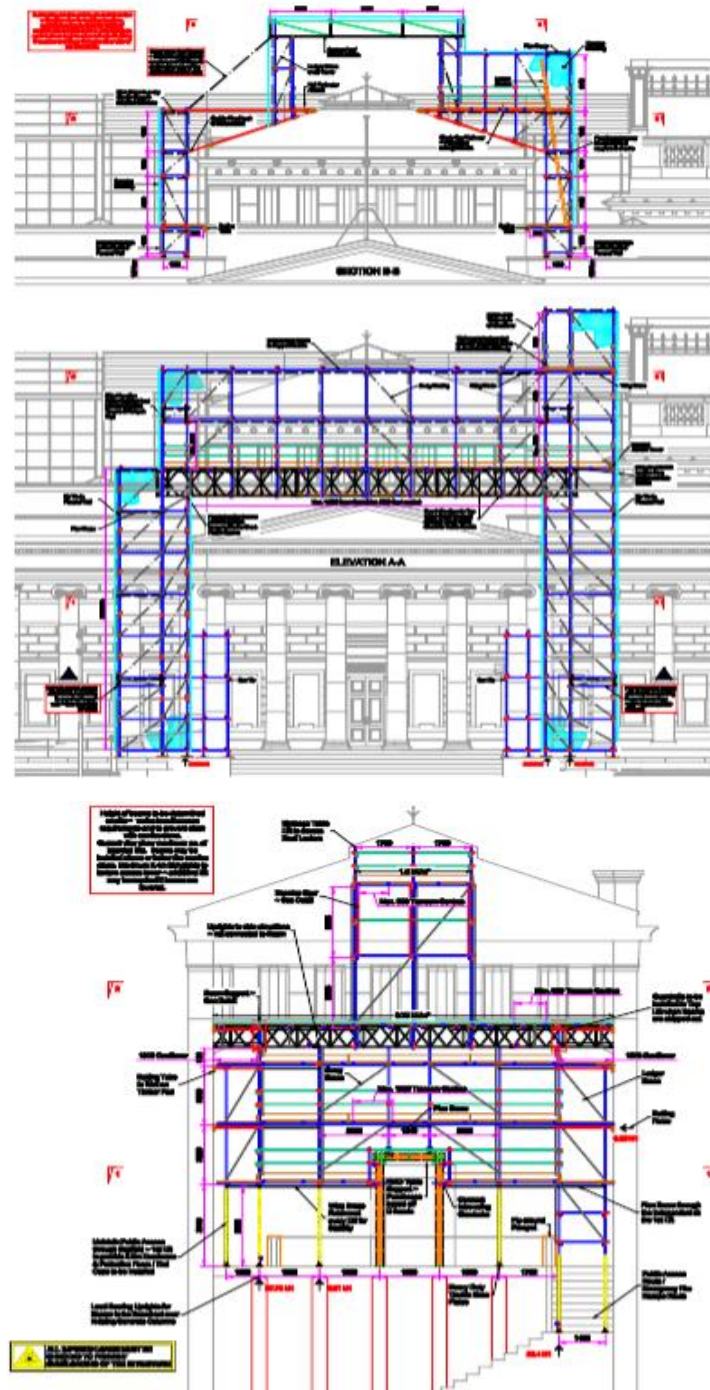
A key consideration is to ensure physical segregation of the construction activities from the public and staff within the gallery whilst maintaining the use of the various facilities.

To do this we will open the existing door to Gallery 1 on Nicholas Street and build a temporary scaffold ramp to allow operatives and materials to enter the building from our existing compound on Nicolas Street

We will also erect a hoarding within the ground floor of the Victorian Square to segregate the public using the Mosely Street entrance from the construction works as well as a hoarding to divide Gallery 1 the construction works from the Gallery staff.

Once the hoardings are erected all areas of the building fabric will be protected using a combination of breathable felt and “impact board”, a corrugated plastic sheet made from 100% recycled material with the impact resistance of plywood.

Both an internal and external scaffold is required to allow safe access to the work area, provide a crash deck for any falling materials and a temporary roof over the opening to protect the gallery from the elements during the works.



A hoist will be fixed to the external scaffold and will be used to transport the existing roof lantern to the ground for disposal and transport the components of the new roof lantern to the roof area for installation.

The existing lantern will be removed by hand from the external scaffold with the asbestos containing elements removed by specialist contractors.

Once removed a full assessment of the existing kerb can be carried out and any repair or upgrade works carried out to the timber and lead work as required.

The new roof lantern will be installed in component form in situ on the roof with the aluminium upstand first, followed by the glazing and capping.

The existing lightening protection finial will be reinstated, and new lightning protection tapes installed and connected to the existing earth path.

The scaffold will be removed from the top down and any damaged or dislodged slates replaced.