Science & Industry Museum Conference Centre Secondary Glazing



Design and Access Statement
March 2026

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1.0

Executive Summary

1.0 Executive Summary

The statement has been prepared by Buttress Architects Ltd on behalf of the Science & Industry Museum (SIM). It explains our response to the work that is required for the refurbishment of the Conference Centre at SIM, Manchester. It has been prepared in line with the guidance document 'Design and Access Statements: How to Write, Read and Use Them,' published by CABE.

1.1 Background

1.1.1 Buttress Architects have been commissioned by the Science Museum Group (SMG) to deliver the SIM Conference Centre Secondary Glazing Installation.

1.1.2 The brief includes:

- Installation of secondary glazing within Meeting Rooms B & C.

1.1.3 The New Warehouse is under the ownership of SMG and serves as the main visitor entrance to the museum complex. The building provides several galleries across the lower ground, ground and first floor levels and also provides accommodation for commercial meetings / conferences, a learning loft for school groups and staff offices, which are housed at second floor level. The lower ground floor houses storage and archival materials, as well as providing a special exhibitions gallery (SEG).

1.2 Purpose

1.2.1 Buttress Architects have prepared this Design & Access statement to support a Planning and Listed Building application for the New Warehouse Conference Centre secondary glazing installation.

1.3 Authorship

1.3.1 The report has been prepared by Peter Levers, Architect Technologist, under the direction of Stephen Anderson, Director at Buttress Architects Ltd.

1.4 Limitations

1.4.1 Existing 2D and 3D survey information has been used to produce the drawings.

1.5 Exclusions

1.5.1 This report excludes any internal works across lower ground, ground and first floor levels unless indicated otherwise.

1.6 Other Specialist Reports

1.6.1 Buro Happold have been appointed to carry out Structural and Acoustic services, developing through RIBA Stages. Relevant drawings and information will be submitted alongside this report. OFR have been appointed as Fire Engineer to pass comment on the proposals.

1.7 Drawings and Other Documents

1.7.1 The drawings contained within this report and used during the surveys are based on information provided by the client and/or sourced from archival resources.

1.7.2 Any diagrams and illustrations provided are for information only and may not be wholly accurate or to scale.

1.7.3 The drawings provided are for Planning and Listed Building consent purposes only.

1.8 Acknowledgements

1.8.1 Buttress gratefully acknowledges the assistance provided by the SIM site staff.

1.9 Application and Project Team

Science and Industry Museum - Applicant and Client

Buttress - Lead Consultant, Architects, Heritage Consultants

Buro Happold - Structural, Acoustic and Electrical Engineers.

Appleyard & Trew - Quantity Surveyors

Keelagher Okey Klein - Principal Designer

2.0

Introduction

2.0 Introduction

2.1 Brief

2.1.1 The design brief focuses on proposals to the second floor only, contained to the existing conference centre.

- Works will include:
- Installation of secondary glazing to Meeting Rooms B & C only.

2.1.2 The client has identified concerns regarding noise transfer that may disrupt events within Meeting Rooms B and C. Positioned on the same elevation as the museum's principal entrance, the rooms are susceptible to noise associated with visitor activity at ground level and vehicle traffic along Lower Byrom Street.

2.1.3 However, the project brief prioritises improving acoustic performance while retaining the existing historic windows.



3.0

Background & Context

3.0 Background & Context

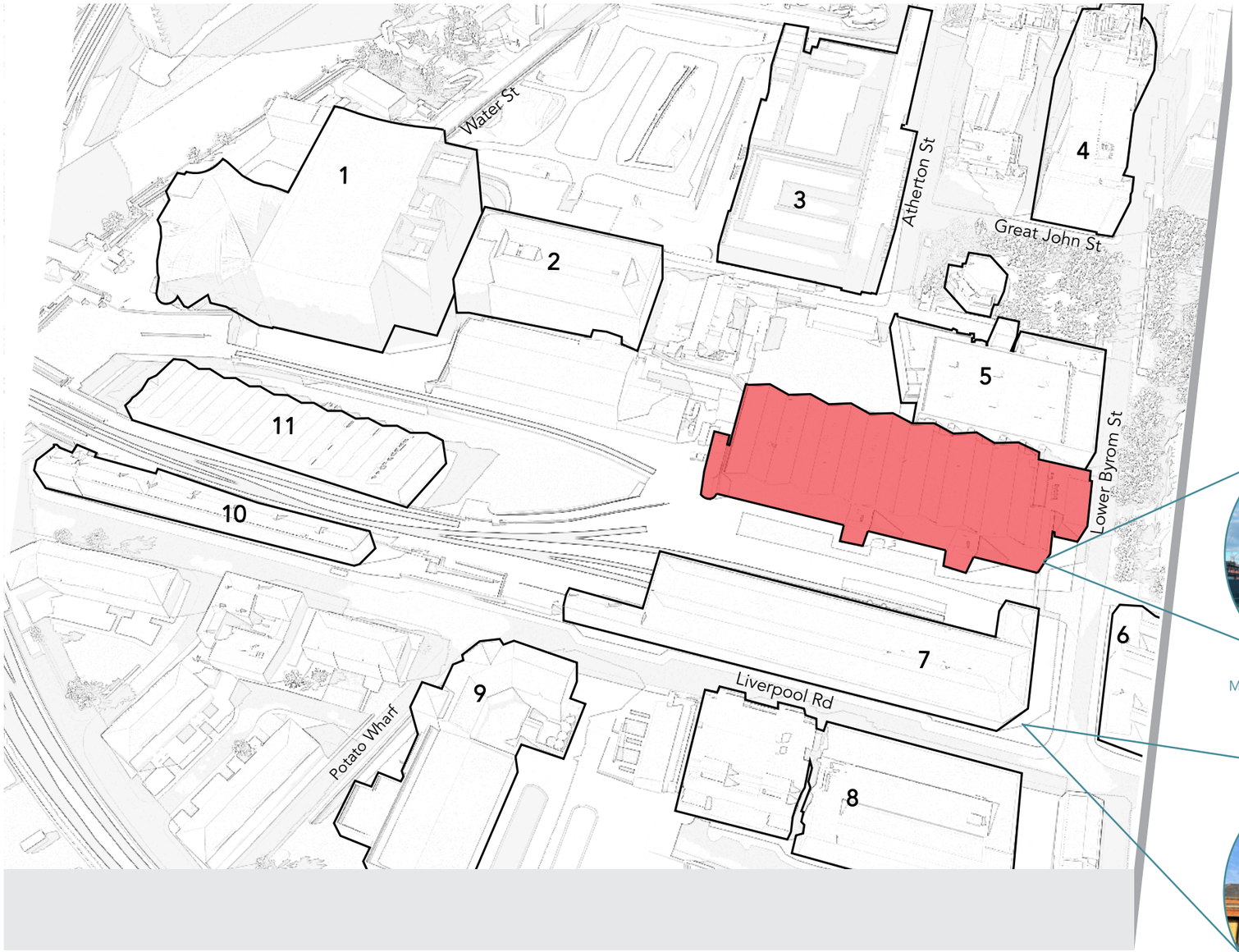
3.1 Location

3.1.1 The Science and Industry Museum is located in the western part of Manchester city centre, on the site of the former Liverpool Road railway station.

3.1.2 The wider museum site is bounded to the north by a number of large warehouses including the site of the new Factory International building, to the south by Liverpool Road, to the east by Lower Byrom Street, and to the west by the River Irwell as well as Stephenson's Viaduct.

3.1.3 Situated in the heart of Manchester, the Science & Industry Museum occupies a prime location within the city's historic Castlefield district. The former Liverpool Road railway station, the world's first inter-city passenger railway station, opposite the 1830 Warehouse. To the east is the New Warehouse and the Power Hall.

3.1.4 There are a number of projects being carried out across the site as part of Vision 2025 masterplan for the Museum, when the site is due to reopen fully to the public.



Key

1	The Factory
2	Rent-able office space
3	Apartment Building
4	Apartment Building
5	Crystal Maze Live Experience
6	Lower Campfield Market (temporarily closed)
7	Power Hall
8	High street food and shops
9	The Castlefield Hotel
10	1830 Station
11	1830 Warehouse
	New Warehouse (SITE)



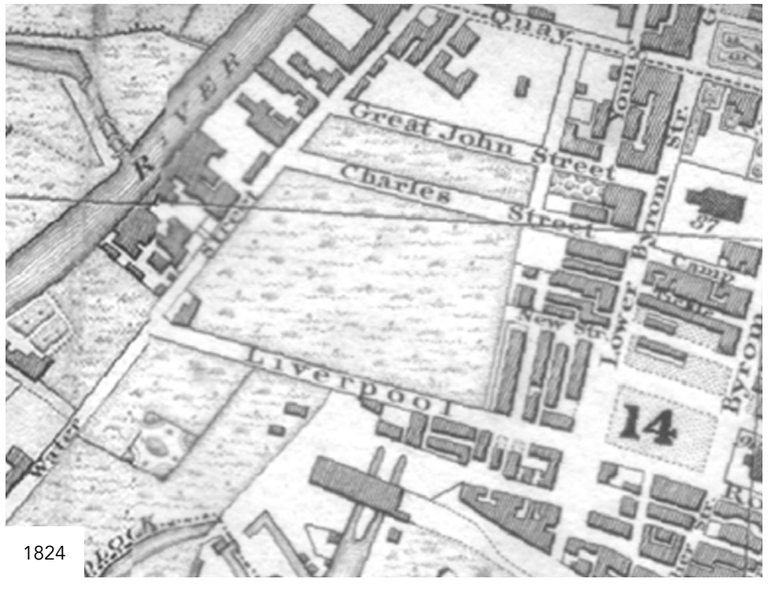
Main entrance from Lower Byrom St



Entrance View from Liverpool Rd

3.2 Historic Context

3.2.1 The New Warehouse, also known as Lower Byrom Street Warehouse or Great Western Railway Warehouse, was constructed between 1878 and 1880. A fireproof building, it had cast-iron columns and wrought iron girders, with hydraulic hoists on the top floor. As goods traffic declined through the twentieth century, it became the main warehouse. The warehouse was sold to the museum in 1981 and converted for museum purposes in several phases between 1984 and 2000. In 2010 major redevelopment saw the introduction of the two southern stair and lift cores, including extensive internal rearrangement. The New Warehouse currently provides a collections and archive centre in the basement, space for permanent and visiting exhibitions, science shows, shop, café on the ground floor, with space for permanent exhibitions, meeting rooms and offices on the second floor.



1824



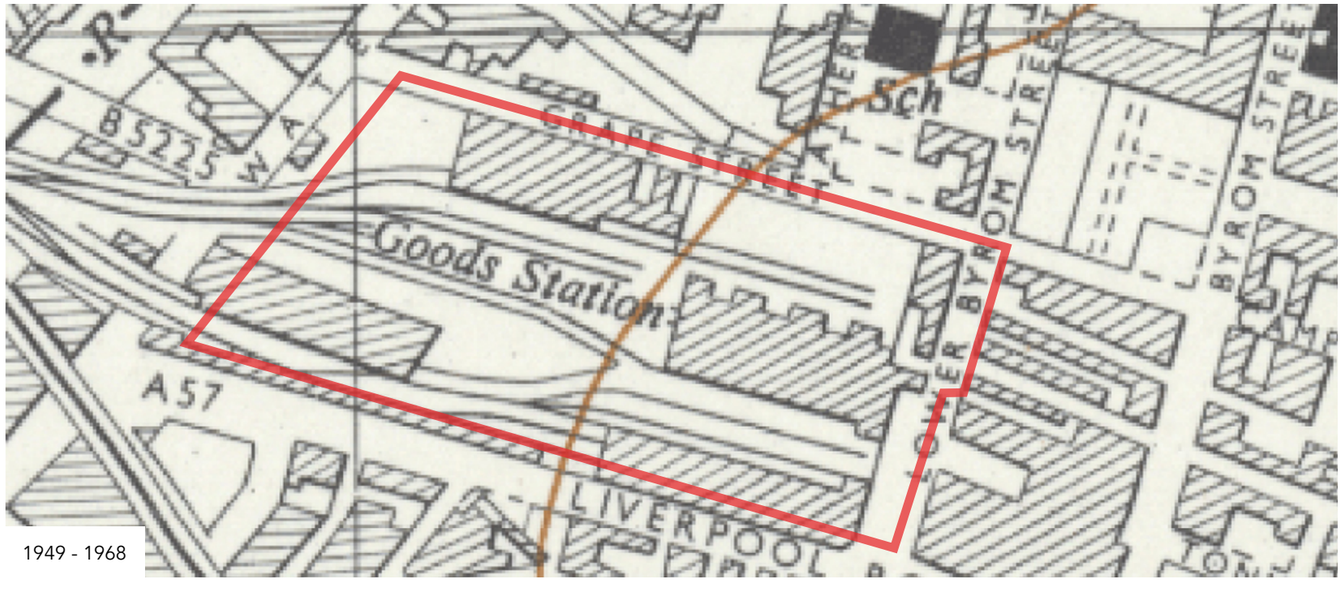
1860



New Warehouse 1983



New Warehouse Second Floor 1987



1949 - 1968

3.3 Historic Maps

3.3.1 In 1824, much of the site between Liverpool Street and Charles Street lay empty up until the development of Liverpool Road Station in 1830. The 1808 Station Master's House is the only building that can be seen to the left of the highlighted image.

3.3.2 By 1860, the site of the Science & Industry Museum was occupied by Liverpool Road Station and the 1830 goods warehouse. In the right image, the New Warehouse has a different position to it's current, and the Shipping Shed was a new addition.



New Warehouse Second Floor 1987



New Warehouse Second Floor 1987

3.4 Planning Context

3.4.1 019724 | GMC DEVELOPMENT Change of use to museum of science and industry of Lower Byrom Street warehouse and the provision of a car park and picnic area at upper level | The Greater Manchester Museum of Science and Industry Liverpool Road Station, Liverpool Road, City CENTRAL.

3.4.2 029573 | Elevational alterations to the Museum Building | Lower Byrom Street warehouse, Lower Byrom Street, City CENTRAL

3.4.3 031891 | Conversion of part of warehouse into a museum with a shop, reception area, store and toilet facilities, with elevational alterations | Lower Byrom Street Warehouse, Lower Byrom Street, City CENTRAL

3.4.4 032265 | Individual letter name sign on front elevation of museum illuminated by floodlights | Lower Byrom Street Warehouse Lower Byrom Street, City CENTRAL

3.4.5 089530/FO/2009/C1 | Reconfiguration of existing Lower Byrom Street Warehouse to include removal of existing modern ramps, staircases and partitions, provision of new partition walls to form altered layout, internally, and addition of new external vertical circulation cores and new roof lights | Museum Of Science And Industry Liverpool Road Castlefield Manchester M3 4FP.

3.4.6 107646/LO/2014/C1 | LISTED BUILDING CONSENT for structural investigation works, involving trial pits/opening up works and material samples. | Railway Viaduct Over River Irwell Leading To Lower Byrom Street Warehouse Manchester M3 4AN

3.4.7 115687/LO/2017 | LISTED BUILDING CONSENT Replacing modern plastic downpipes with cast iron of same dimensions | Museum Of Science And Industry Lower Byrom Street Manchester M3 4FP

3.4.8 19810/LO/2018 | LISTED BUILDING CONSENT for rooflight replacement and roof safety improvement works including Installation access hatch / ladder from existing plant room, freestanding PVC walkways to gutters and up and over freestanding stepped walkways with handrails to both sides over pitched roof slopes. | Manchester Museum Of Science & Industry Great Western Warehouse Lower Byrom Street Manchester M3 4FP

3.4.9 122773/LO/2019 | LISTED BUILDING CONSENT for alterations to the Science and Industry Museum New Warehouse building and Colonnaded Viaduct including internal and external alterations to create a new Special Exhibitions Gallery and associated access, hard landscaping, lighting and other associated works.

3.4.10 122772/FO/2019 | External alterations to the New Warehouse at basement level and two existing ground floor louvres, landscaping, feature lighting and associated works to facilitate adaptation to the special exhibition gallery.

3.4.11 137802/LO/2023 | Listed Building Consent for fire protection remediating works in the New Warehouse including works to stud walls and fire doors.

3.4.12 138260/FO/2023 | Phased refurbishment works, with Phase 1 including full replacement of the roof with new insulation, downpipes and gutters, access gantries and ladders and revised rooflight arrangement, fabric repairs and decoration works to the facades, waterproofing works to the Special Exhibitions Gallery at basement level including some excavation of the Upper Yard to allow for access, the installation of a new entrance porch on the west elevation, installation of scaffolding and hoarding during construction works, other associated works, and Phase 2 comprising the reinstatement of the Upper Yard hard landscaping following completion of the waterproofing works to the Special Exhibitions Gallery.

3.4.13 138261/LO/2023 | Listed building consent for Phased refurbishment works, with Phase 1 including full replacement of the roof with new insulation, downpipes and gutters, access gantries and ladders and revised rooflight arrangement, fabric repairs and decoration works to the facades, waterproofing works to the Special Exhibitions Gallery at basement level including some excavation of the Upper Yard to allow for access, the installation of a new entrance porch on the west elevation, installation of scaffolding and hoarding during construction works, other associated works, and Phase 2 comprising the reinstatement of the Upper Yard hard landscaping following completion of the waterproofing works to the Special Exhibitions Gallery.

3.4.14 141783/LO/2024 | Listed building consent for refurbishment of the existing conference centre. The scope of works includes the installation of new carpeting, light-touch redecoration, and localised repairs to the internal fabric of the building. In addition, an acoustic solution in the form of a new glazed screen will be implemented to address potential noise transfer from the atrium.

3.5 Listing Description

Heritage Category: Listed Building

Grade: II

List Entry Number: 1283016

Date first listed: 06-Jun-1994

Statutory Address 1: MANCHESTER MUSEUM OF SCIENCE AND INDUSTRY, FORMER LOWER BYROM STREET WAREHOUSE, LOWER BYROM STREET

Location

Statutory Address:

MANCHESTER MUSEUM OF SCIENCE AND INDUSTRY, FORMER LOWER BYROM STREET WAREHOUSE, LOWER BYROM STREET

The building or site itself may lie within the boundary of more than one authority.

District: Manchester (Metropolitan Authority)

Parish: Non Civil Parish

National Grid Reference: SJ 83172 97868

Details

MANCHESTER

SJ8397NW LOWER BYROM STREET 698-1/30/230 (West side)
Manchester Museum of Science and Industry, former Lower Byrom Street warehouse

GV II

Formerly known as: Lower Byrom Street Warehouse of Liverpool Road Station LOWER BYROM STREET. Railway goods warehouse, now part of museum complex. 1880, altered. Red brick with dressings of red brick and some sandstone, slate and glass roof. Large rectangular plan on east-west axis with entrances for railway lines through west end. Three storeys and basement, with south facade of 7 gabled bays, each bay having 2 pairs of windows; blue brick plinth and bands between floors with vertical strips extended to the windows; segmental-headed windows diminishing in the height, with stone imposts and blue brick keystones and arch-bands, iron-framed small-pane glazing; large segmental-headed wagon archways to the 2nd, 3rd and 5th bays, 2-stage loading slot to the upper floors of the 3rd bay. Eight-window west end, with 2 large square train entrances at ground floor; staggered east end with 4-window main facade, altered entrance at ground floor.

Listing NGR: SJ8317297868

3.7 Existing Photos

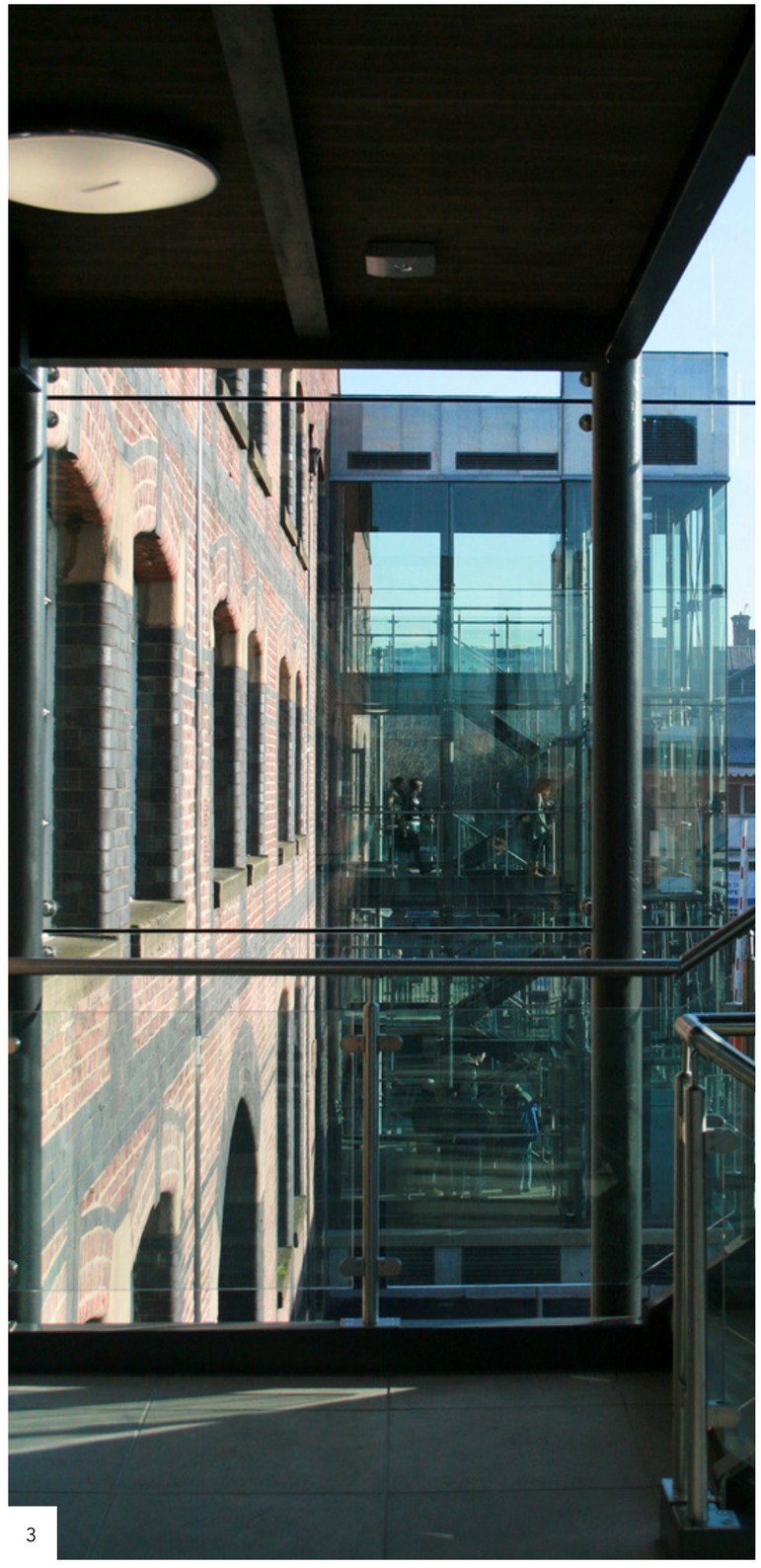
1. View of new warehouse from Lower Byrom Street
2. View of South facade
3. Glazed stair core



1



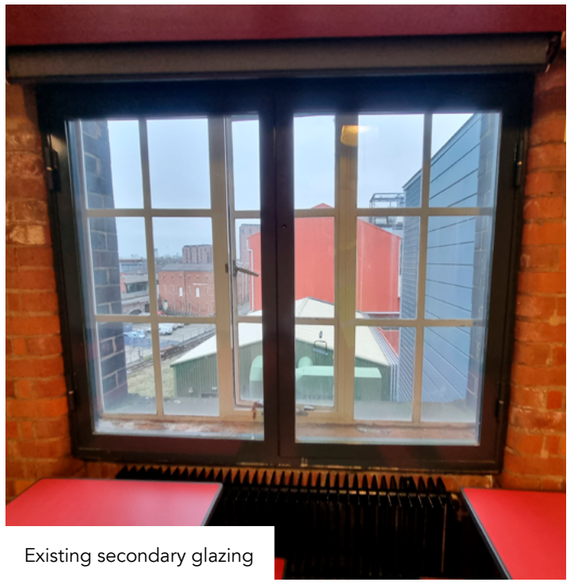
2



3



Meeting room next to void



Existing secondary glazing





Current view of the glazed screen around the floor void in the conference centre

Meeting room

3.8 The original Conferencing Centre & Learning Loft fit-out - during construction c 2010

4. Learning Loft
5. Circulation space outside of the conferencing suites
6. View up one of the floor voids during construction



4



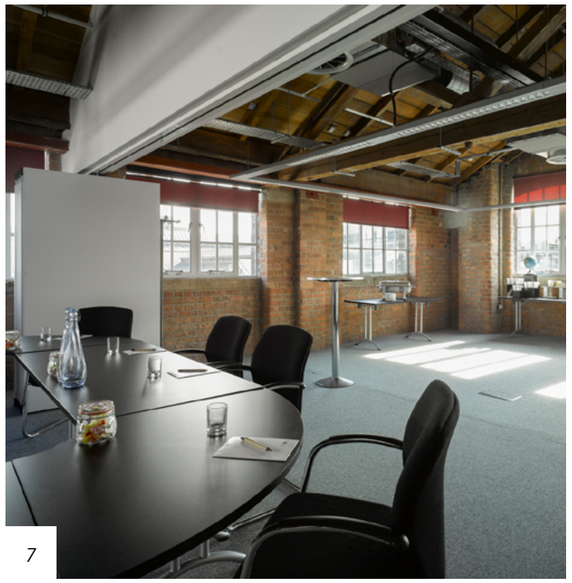
6



5

3.9 Photos post original fit out c 2011-2012

7. Conference Room
8. Conference Centre breakout space
9. Conference Room



7



9



8

4.0

Design Proposals

4.0 Design Proposals

4.1 Background

4.1.1 Buttress has successfully completed a comprehensive Stage 2 feasibility study, during which various options were thoroughly explored in collaboration with the client and design team. The selected proposal was chosen for its exceptional acoustic performance and visually appealing design, which maintains a strong connection to the museum below.



Existing Second Floor Plan Note: Plan not to scale

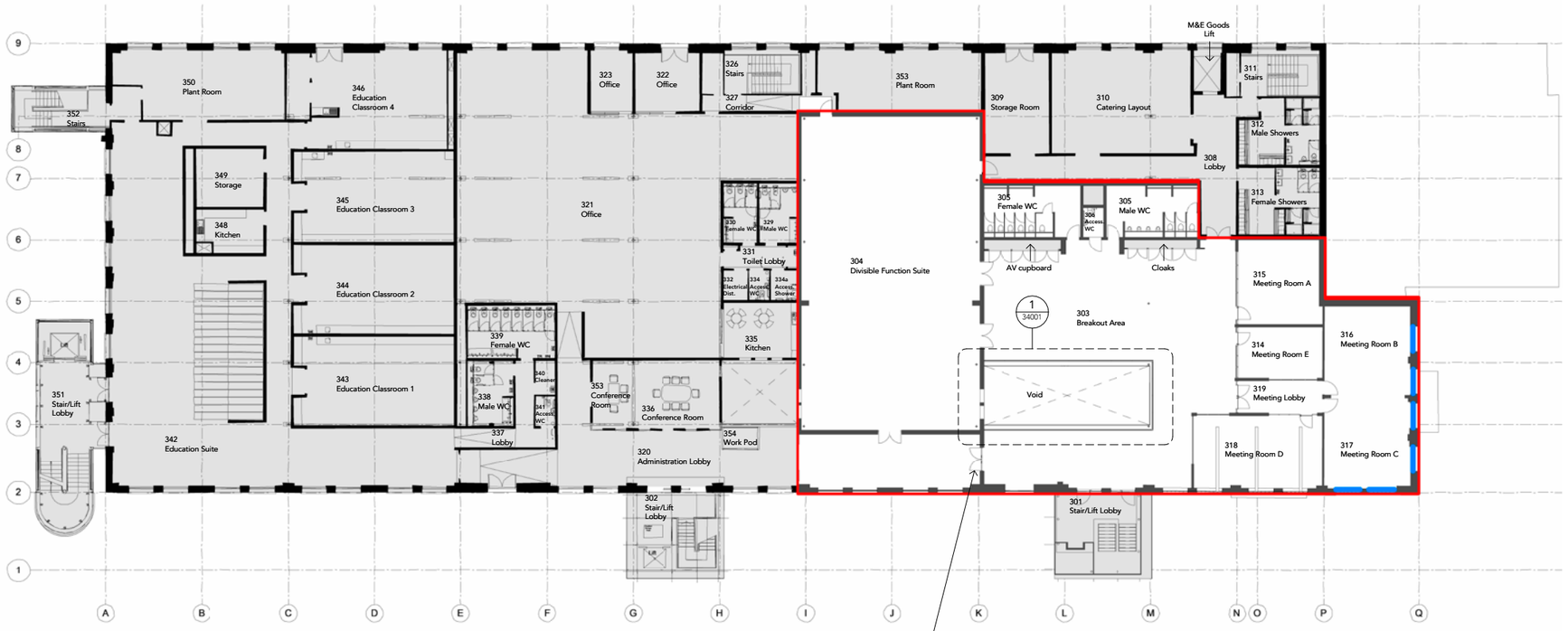
Key

- Project Boundary
- Not in Scope
- Offices
- Meeting Rooms
- WCs
- Circulation
- Floor Void

4.2 Second Floor Design Proposal

4.2.1 The second floor proposal includes the following design strategies explained in further detail in this section of the document;

- Proposed secondary glazing.



New 60 minute fire rated glass screen with 180 degree magnetic hold open device linkd to fire alarm system to create new fire compartmentation. (NOTE: this is part of a separate project being executed by the museum)

Proposed Second Floor Plan Note: Plan not to scale

Key

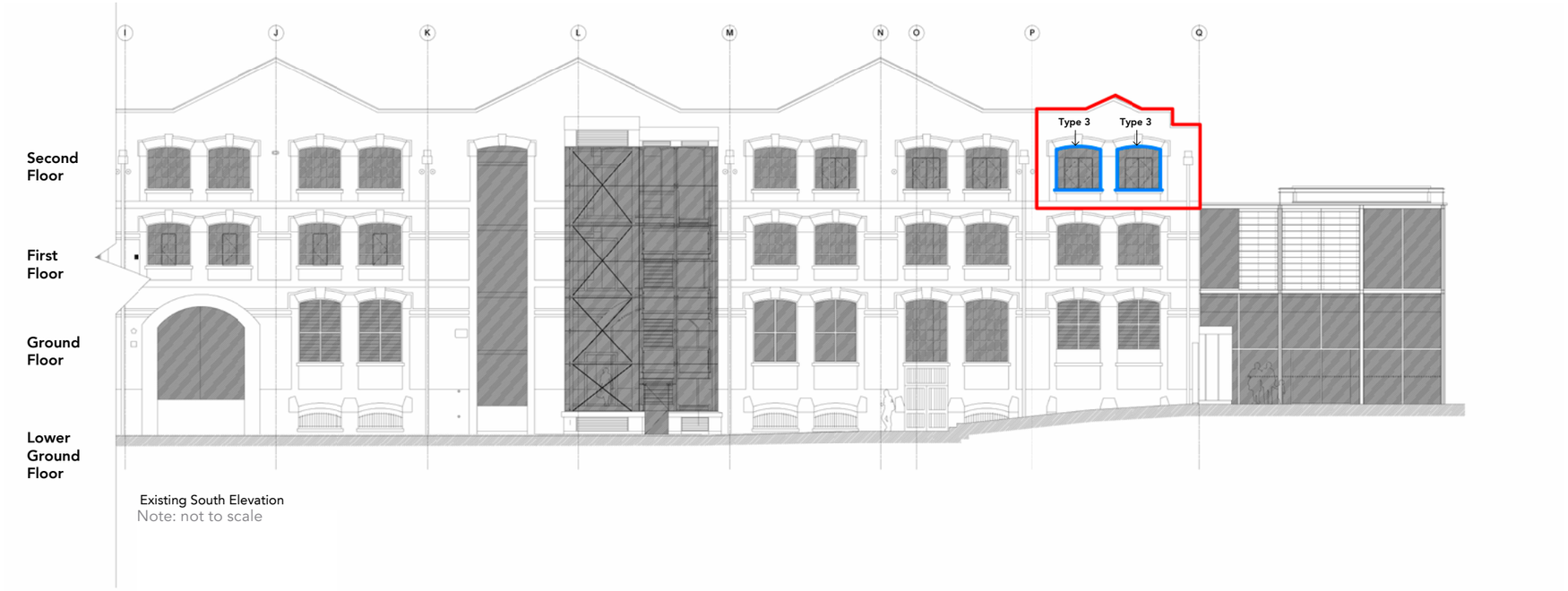
- Project Boundary
- Not in Scope
- Proposed Secondary Glazing
- Floor Void

4.3 Secondary Glazing

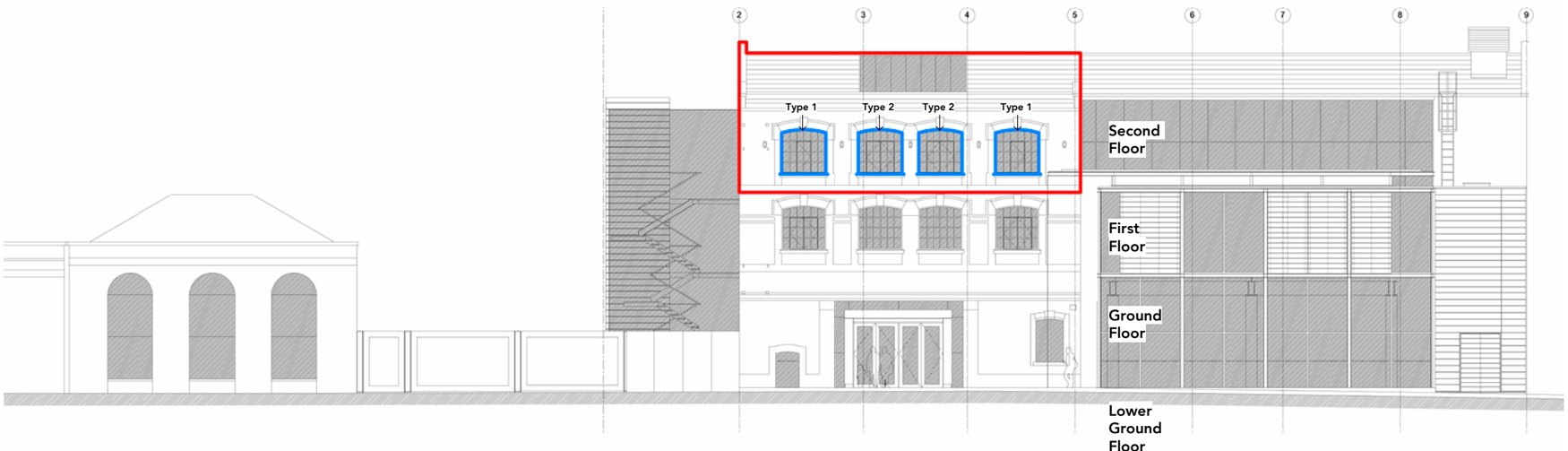
4.3.1 To enhance the acoustics within the conference centre and mitigate noise intrusion from the museum and upper yard, which will be frequently visited by the public and school children, it is proposed to install secondary glazing.

The secondary glazed timber subframe and metal units will be fixed directly into the masonry surround. Should pullout tests demonstrate that fixings into mortar joints meet acceptable parameters, they will be positioned accordingly. However, it is anticipated that direct fixings into the brickwork will be necessary to ensure a robust solution that aligns with the manufacturer's specifications.

The secondary glazing design has been informed by a site survey undertaken by the glazing manufacturer, with detailed frame sizes and fixing arrangements developed accordingly. The proposals illustrated reflect the manufacturer's design recommendations, which have been prepared to achieve the required acoustic performance while accommodating the existing historic window openings.

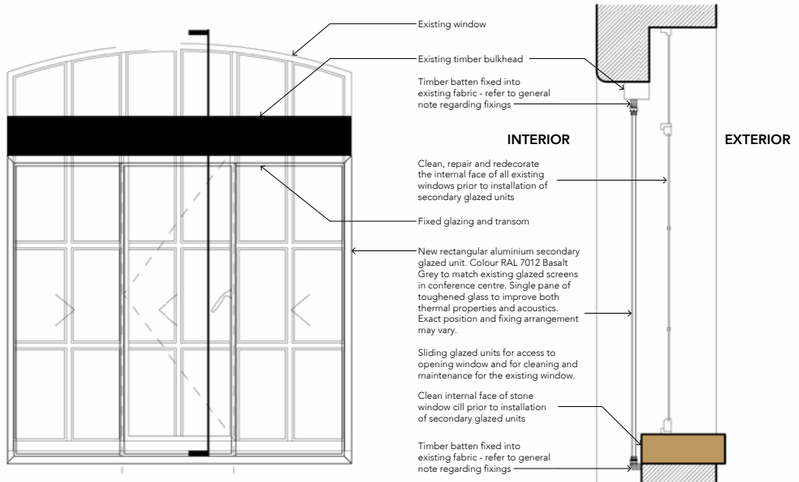


Existing South Elevation
Note: not to scale



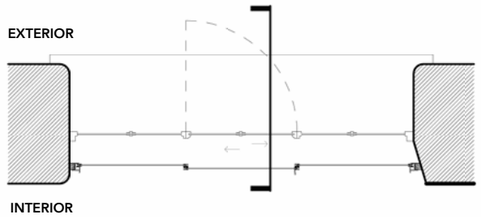
Existing East Elevation
Note: not to scale

Note: not to scale



Internal View of Proposed Secondary Glazing Type 1 Elevation

1:10

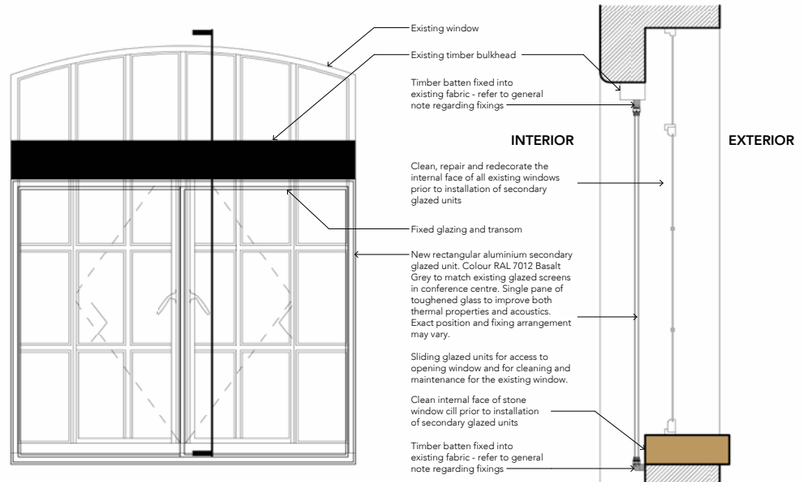


Proposed Secondary Glazing Type 1 Plan

1:10

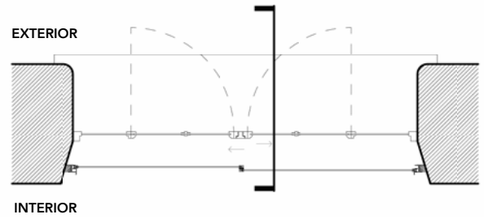
Proposed Secondary Glazing Type 1 Section

1:10



Internal View of Proposed Secondary Glazing Type 2 Elevation

1:10

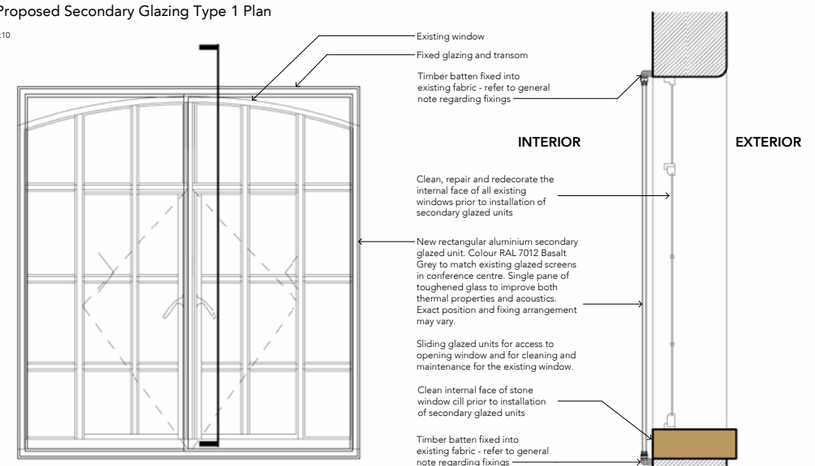


Proposed Secondary Glazing Type 2 Plan

1:10

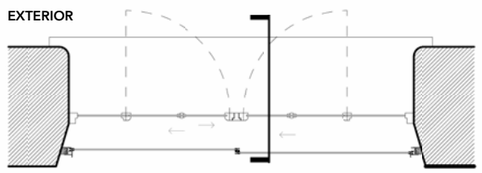
Proposed Secondary Glazing Type 2 Section

1:10



Internal View of Proposed Secondary Glazing Type 3 Elevation

1:10



Proposed Secondary Glazing Type 3 Plan

1:10

Proposed Secondary Glazing Type 3 Section

1:10



Existing Window - Type 1 Proposal



Existing Window - Type 2 Proposal



Existing Window - Type 3 Proposal

a Acoustics packages.

Seperate Structural and Acoustics proposals take precedent over indicative architectural information.

Limitations

The drawings are based upon existing data and no concealed and / or hidden spaces have been exposed and / or opened up for inspection, unless specifically highlighted. Therefore, the arrangement and interfacing illustrated across details and general arrangement drawings are purely indicative / approximate only. The accuracy of the survey data graphically presented cannot be confirmed. These drawings are for tender purposes only.

100 0 100 200 300 400 500 mm
SCALE 1:10

NOTE:

The exact frame sizing and fixing arrangement may vary from that

5.0

Summary of proposals

5.0 Summary of proposals

5.1 Conference Centre Refurbishment

5.1.1 This proposal seeks to enhance the acoustic performance of Meeting Rooms B and C through the installation of secondary glazing. The design approach is carefully tailored to respect and preserve the character of the Grade II listed building, ensuring minimal visual impact. The scheme will deliver targeted improvements to the functionality and usability of the meeting rooms.

5.1.2 Key proposals are:

1. Noise Mitigation Measures

- Implementation of secondary glazing to the existing windows reduce external noise while preserving visual connections to the surroundings.
- Noise levels from the ground floor entrance and adjacent vehicle traffic along Lower Byrom Street will be reduced, ensuring internal ambient noise and speech interference criteria are met within the meeting rooms.

5.2 Pros of the Proposals

- Improved Acoustics: Solutions effectively mitigate noise transfer, ensuring an undisturbed environment for meetings and events.
- Enhanced Visual Connectivity: The design preserves the appearance of the historic windows and maintains natural light flow.
- Alignment with Client Goals: Balances acoustic performance with the client's priority to retain the character and visual connections of the building.

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