

07 March 2023

Jack Naven
Planning Department
Manchester City Council
Town Hall
Manchester
M60 2LA

Dear Jack,

Science and Industry Museum: 1830 Warehouse Application for Planning Permission and Listed Building Consent

Please find enclosed an application for Planning Permission and Listed Building Consent for the replacement of wagon arch glazing and timber, masonry and metalwork repairs at the Science and Industry Museum's 1830 Warehouse.

The Science and Industry Museum is located to the north west of central Manchester, to the east of the River Irwell, and is within the Castlefield Conservation Area.

The Applicant is the Science and Industry Museum ('the Museum').

1 Context

The 1830 Warehouse is a Grade I Listed Building within the Science and Industry Museum complex. The 1830 Warehouse was erected as a railway warehouse in 1830 as part of the construction of the world's first railway station at Liverpool Road and was the first warehouse to be served by railways, in a similar way that canal warehouses had previously. In 1844 Liverpool Road station closed to passengers but remained in operation as a goods station.

In c.1870, the top floor and rail level were modified to accommodate the installation of hydraulically powered machinery. A hydraulic crane was also installed at rail level in Bay 2, leading to the widening of the wagon door to permit the rotation of the crane jib. The building remained in use as a railway warehouse until the early 1980s.

In the mid-1980s – mid-1990s, a series of considerable repairs and alterations were carried out. In 1985-86, the easternmost bay (Bay 5) of the Warehouse was altered. These alterations consisted of the replacement of the internal timber frame and the construction of a ramp parallel to the eastern elevation, where the entrance lies. The entirety of Bay 5 then became the Electricity Gallery, opening in 1986.

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In 1992-96, the remaining four bays were carefully restored. This included repairs to the timber frame, followed by the installation of two lift and staircase cores, with skylights installed above. The restoration ethic at this time was to retain as much original historic fabric as possible and to make any new interventions clearly identifiable through the use of modern materials.

Subsequently, deterioration has occurred on Site as a result of significant water ingress. Works have already begun to restore and protect the warehouse, with the first £1.9m phase of work funded by the Department of Culture, Media and Sport (DCMS). In May 2020 permission was granted for a new roof, gutters and rainwater pipes to be installed to help protect the building, manage the water ingress and dry the building out (LBC ref: 124068/LO/2019). These works were completed in Spring 2022 and the Museum is now planning for further internal repairs, including those included within this application.

The below plan identifies where the 1830 Warehouse is located within the Science and Industry Museum estate.

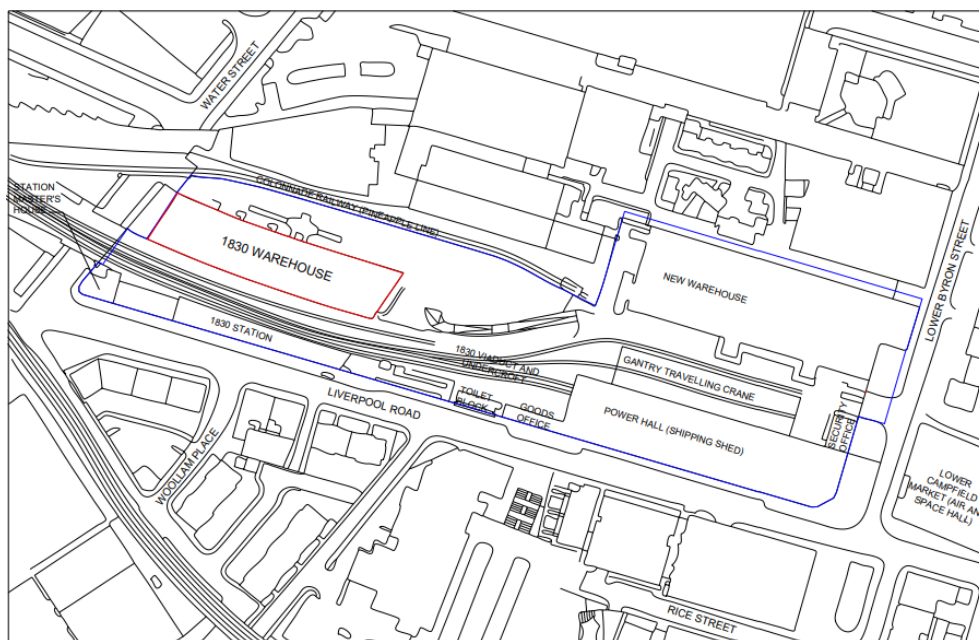


Figure 1 – Site Plan of Science Museum Estate (Source Design and Access Statement, Studio Downie)

2 Background

As part of wider site regeneration, the 1830s Warehouse is required to accommodate staff offices while also being used as a temporary event space due to works being undertaken elsewhere on Site. In order to facilitate these uses essential conservation works are required as the space is currently deemed unsuitable. It is currently intended the 1830s Warehouse must be ready to host temporary events and staff offices by Autumn 2023 in line with wider regeneration works. Consequently, the repairs outlined within this application are deemed essential over Summer 2023 to ensure the safety of both staff and visitors.

3 Significance of the 1830 Warehouse

The 1830 Warehouse holds rich historical value as the world's first railway warehouse and embodies a distinct stage in the evolution of the history of transit. Its architectural form illustrates its historic function.

Not only is it the first railway warehouse, but it is also part of an important group that makes up the most complete early railway station in the country. This station consisted of a viaduct, passenger station and river bridge and only the bridge that originally spanned the road has been replaced. Group historic value is further augmented through the location and relationship to the later Liverpool Road Station warehouses, and the warehouses of the Castlefield waterways. There is high contextual interest between the various buildings of this general period illustrating the transition from one mode of transport to another.

Having been built by a known Manchester firm consisting of George and Robert Stephenson, there is also an associated historical significance embodied in the links to the builders and other historic personages associated with the development of the railways.

These associative links are not expressly legible in the building itself but are reflected and understood within the historic background and disseminated through the Science and Industry Museum's use of the buildings.

For further details see the Heritage Statement prepared by HCUK Ltd.

4 Pre-application Engagement

Manchester City Council (MCC) have been engaged throughout the pre-application process, having attended meetings on Site on 09 August 2022 and 17 January 2023, as well as a pre-application meeting on 29 November 2022. During these meetings, the defects associated with the proposed works were presented and the approach with regards to new installations and repairs, as well as how listed fabric would be protected, was established.

Wagon Arches

The preliminary meeting with MCC Planning and Conservation Officers set out an overview of identified defects and the approach to proposed works. The feedback from this meeting was that further analysis was required to ensure the full history and condition of the arches was understood.

Studio Downie Architects developed the design approach in response to MCC's feedback, which was presented to MCC in a pre-application meeting held in November 2022.

MCC confirmed their agreement in principle to the works and confirmed that they would require a Listed Building Consent and Planning Permission.

Historic England were issued a pre-application briefing report and confirmed that the proposals appeared acceptable.

Essential Repairs

There was an on-site meeting in January 2023 with MCC Planning and Conservation Officers, to give an overview of the defects and the general approach. It was agreed that an application would be supported

by analysis of the historic detailing to the sills and it was confirmed these works would be packaged together with the wagon arch glazing to comprise one Listed Building application.

5 Proposals

The description of development for the planning permission is:

Planning Permission for replacement of glazing and cargo door sills at the southern façade of the 1830 Warehouse and repairs to masonry, stonework and metalwork.

The description of development for the listed building consent is:

Listed Building Consent for replacement of structural glazing and repairs to masonry, timber and metalwork within the 1830 Warehouse.

The proposed works which form this application can be separated into six workstreams, which while summarised below, are fully detailed in the accompanying Design and Access Statement prepared by Studio Downie Architects as well as the drawings submitted with this application.

5.1 Wagon Arch Glazing

After undertaking of the condition of the fabric, it became clear there is an urgent need to repair the two structurally defective glazed Bays 1 and 2 as a priority, and Bay 3 as a preventative measure. Bays 1 and 2 require action to stop ingress of water, to prevent damage and degradation of surrounding fabric and to minimise the risk from collapse of the large structural glass infills.

The initial approach was to replace the glazing with a new system that respects the legibility of the history of the building and its multiple phases but didn't replicate or directly mimic existing details. However, MCC felt that that these proposals created a visual change which was too significant in regard to the openings and their visibility.

Following this feedback, further options were assessed, all of which retain a framed system. Three options were considered, all of which feature an internal frame structure and a vertical metal upstand detailed to cast water away from the building as it flows down the new glass inserts. These options are presented in full on page 10 of the Design and Access Statement.

The chosen approach divides the openings into two equal planes and utilises a light weight framed system so that the degree of visual change is minimised. As part of this option, the divide between the new panes is capped which visually emphasises the vertical height of the openings and respects the historic opening line of the doorways. The position of the glass will be set back from the historic door jamb position and aligned to conceal the historic damage created in the stonework during the installation of the existing glazing.

5.2 Cargo Door Sills

Analysis of the cargo door sills revealed that they do not cast water off their top surface adequately. Beneath the sills the brickwork has become discoloured, with significant mould and moss growth. Water and frost damage has also occurred from water flowing directly down the building façade, due to the lack of drip detailing. The is primarily pine used during 20th century replacements and the fabric affected as

part of proposals will be modern. Without the proposed repairs it is thought the brickwork fabric below the sills would become saturated, further exacerbating these issues.

The replacement proposed within these works is slightly different to that currently in place. Works involve cutting out and removing the entire wood sill. The existing cut will be carefully templated and a new cut will be produced using hardwood/oak that matches the profile of the existing section. To ensure the same deterioration does not occur in future, adaptations include the fall to the top surface and protruding drip detail to the underside to prevent capillary rainwater tracking under the sill.

The overall aesthetic of the southern façade cargo doors will be maintained. The width of the sills and their depth in relation to the doors will not change. Furthermore, proposed works will prevent the need for future repair works to actual historic brickwork of high heritage significance.

5.3 Brickwork Repairs (internal and external)

External Brick Repairs

Below the cornice there are areas of deteriorated (spalled) brickwork and eroded pointing and smaller isolated patches of damaged brick, which will be the focus of these repairs. In addition to this, there is isolated metalwork embedment which is corroding into brickwork and causing deterioration principally to the east elevation. The repairs therefore seek to stabilise and preserve the historic brick and stonework.

The proposed works involve brick repair and replacement utilising the same brick and mortar materials agreed under condition 4b (pp ref: CDN/21/0140) of the existing LBC (PP ref:124068/LO/2019) to repair external areas of decline. Corroded metalwork will be cleaned and treated whilst redundant non-historic ferrous fixings are to be removed and holes will be infilled with a mix of colour matched mortar and brick dust. A full breakdown of works can be found on page 21 of the Design and Access Statement prepared by Studio Downie Architects.

Internal Repairs

The condition of existing internal bricks appears to have declined with vertical and diagonal cracks appearing across various internal areas of the 1830s Warehouse as well as multiple instances of damaged, loose or missing brickwork. Works are required to stabilise and preserve the historic brickwork and timber. In addition to this, evidence has been found that suggests high localised stress which reduces the robustness of the structure and bearing capacity.

Proposed works will repair or replace and re-point damaged brickwork to enhance the sense of robustness across the structure. Where additional capacity is needed in the floor structure, horizontal bed joints will be reinforced and re-pointing will be carried out in the brick piers. The material specifications for the colour of mortar and brick to be used will be the same as those agreed previously as part of planning condition 4b attached to the previous consent 124068/LO/2019 for repair works to the 1830 Warehouse.

5.4 Stonework Repairs

Analysis has revealed external stonework and window sills have suffered damage as a result of embedded metalwork on the façade and steps have been damaged as a result of this. Repair work is therefore necessary to preserve the historic stonework of these elements.

The proposed stonework repairs will consist of fixing cracked, spalled or other failed areas in a like-for-like fashion, in order to match the stone and surrounding mortar in line with the existing listed building consent approved in May 2020 (pp ref. 124068/LO/2019). The intent is to repair and restore, not to effect any change. The works will halt damage and sustain heritage significance.

The steps leading up into the building on the north façade will be carefully dismantled and a new foundation provided, and then the historic steps will be restored. This work will therefore lead to temporary dismantlement however will result in a minimised risk and full restoration of the historic fabric. The re-use of the historic steps will ensure that the unique pattern of wear and age will be retained, preserving architectural, evidential and historic interest.

5.5 Timberworks Repairs

The existing timber has been largely damaged with a significant loss of support due to shrinkage and settlement. These issues have been exacerbated at column locations, where the full depth of bearing columns from above further reduces the bearing of the floor joists. Although the majority of these do not appear to be at risk of progressive failure, the capacity of the beams has been reduced with very little contact remaining in some locations.

As a result of the above issues, repair works are necessary to enhance the bearing capacity of the damaged beams and joints, whilst also stabilising and preserving the historic timber. As part of these works, an approach will be used that maximises the retention of historic fabric where possible. Where the majority of wood is in good condition, retention will be a priority with targeted localised repairs. Where elements of timber have suffered significant rotting and crumbling, these sections will be removed and sensitively replaced. A full breakdown of proposed works can be seen on page 27 of the Design and Access Statement prepared by Studio Downie Architects.

5.6 Metalwork Repairs (including redecorating rainwater downpipes)

The proposed metalworks involve the redecoration of rainwater downpipes, the removal of redundant small fixings that are not associated with historic features or functions (nails, eyelets, clamps) and the cleaning and restoration of corroded ironwork elements. Such works are required due to the uncovering of areas of corrosion at multiple locations which has led to spalling of brick faces in these areas. Works to carefully clean these corroded elements are therefore necessary to repair and conserve metalwork and to limit the effects to the surrounding brick and masonry from expanded corroded pieces.

The regular repainting of external metalwork as well as cleaning of corrosion and repainting of metal beams is an important part of building maintenance and will not have an impact on the heritage value of the overall buildings.

6 Methodology and Impact on the Listed Building

Method Statements for all works to be carried out as part of this application have been prepared by Studio Downie which fully detail how the works will be carried out, as well as how historic fabric will be protected, prior to works beginning and throughout works taking place.

The Method Statements have been split into four workstreams. A full methodology of all works can be found in Appendices 3.1 –3.4 of the Design and Access Statement.

The accompanying Heritage Impact Assessment prepared by HCUK Ltd assesses the works in terms of impact on the listed building and concludes that no harm to the heritage asset has been identified within the proposals.

Further to this, the methodologies prepared by Studio Downie set out the sequential process of recording the protection of historic fabric and monitoring works which would ensure the significant elements of the listed building are preserved.

7 Accordance with Planning Policy

Heritage and Conservation

The key material planning consideration for this application is the impact on the designated heritage asset, the 1830 Warehouse, and therefore adherence to planning policy regarding the historic environment is required.

Paragraph 190 of the National Planning Policy Framework ('NPPF') (2021) states that *"in determining applications, local planning authorities should take account of:*

- *the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- *the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
- *the desirability of new development making a positive contribution to local character and distinctiveness."*

Paragraphs 201-203 place great weight on the conservation of designated heritage assets, emphasising the need to avoid "substantial harm" in terms of demolition, significant alteration, or compromise the setting unless that harm is clearly justified (via four specific tests) or there are substantial public benefits that outweigh that harm. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits.

The accompanying Heritage Impact Assessment notes that the proposed works focus on key improvements to the building's envelope to replace wagon arches that have become defected to enhance the structural integrity of the building and rectify issues of water damage and degradation to the surrounding fabric. The works also include a series of essential repairs which, together with the series of decorative works, will improve its condition and appearance of the 1830 Warehouse.

Overall, the building would be conserved in a manner that is appropriate to its significance. The Heritage Assessment concludes that the effects on the heritage value of the 1830 Warehouse sustain and preserve its special interest and significance. The proposed designs preserve the architectural, evidential and historic values of the building without eroding those values and thus causing no harm within the terms of the NPPF. The full assessment of harm is set out in the accompanying Heritage Impact Assessment prepared by HCUK Group.

In addition to posing no harm to the heritage value to the 1830 Warehouse, there are multiple public benefits associated with proposed works which ensure the beneficial long-term and optimum viable use

of the listed building. Ultimately the structural improvements afforded by replacement of the Wagon Arch glazing, alongside essential repair works and decoration, help to ensure the long-term conservation and appreciation of this protected asset, as well as enhancing the experience for those visiting the Science and Industry Museum.

The approach is in line with Policy CC9 Design and Heritage within the adopted Manchester Core Strategy (2012). This policy sets out that development in Manchester City Centre should protect or enhance the heritage assets that have been identified, including listed buildings, conservation areas and scheduled ancient monuments. The policy also supports the need to ensure buildings are of the highest standard in terms of appearance and function and all replacement and repair works seek to preserve the special interest and significance of the 1830 Warehouse.

Saved UDP Policy DC18.1 states that MCC give particularly careful consideration to development within Conservation Areas and will seek to preserve and enhance the character of these designated areas. Saved UDP Policy DC19.1 also states that applications for listed building consent, involving or having an impact on buildings of Special Architectural or Historic Interest, will have regard to securing the retention, restoration, maintenance and continued use of such buildings and to protecting their general setting.

The proposed works are essential for the retention and restoration of the 1830 Warehouse as the historic fabric is deteriorating as a result of the natural processes of time, weathering and use. The retention of glass within the wagon arches in Bays 1-3 is therefore necessary in terms of the ongoing viable use of the heritage asset.

Other restoration works are minor in nature but are essential and similarly preserve and sustain the heritage significance of the 1830s Warehouse. Minor changes to improve design details to the cargo door sills will result in a change to small areas and the replacement of modern fabric replacement features. However, these changes will not impact on the overall character of the building, while limiting further damage to historic brick and stonework beneath the cargo bay doors. This will limit the future potential for physical harm to the listed buildings and will therefore help to ensure their ongoing viability and future use.

The works proposed to facilitate the future reuse and conservation of the building will result in the preservation of the significance of the building and will contribute towards the enhancement of the character and appearance of the Castlefield Conservation Area.

The proposals can therefore be considered to be in accordance with Policy CC9 Design and Heritage of the Manchester Core Strategy (2012) as well as saved UDP Policies DC18.1 and DC19.1.

8 Application Documents

The following information is provided in support of this application:

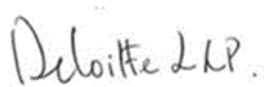
- Application Form and Ownership Certificates prepared by Deloitte;
- Application Site Boundary and Site Location Plan, prepared by Studio Downie;
- Design and Access Statement (including Schedule of Works and Repair Methodologies), prepared by Studio Downie;

- Condition Surveys, prepared by Studio Downie;
- Construction Method Statement, prepared by Studio Downie;
- Heritage Impact Assessment, prepared by HCUK Group;
- Structures Report, prepared by Conisbee (See Design and Access Statement Appendix 2); and
- Method Statements, prepared by Studio Downie
 - Brickwork Repairs (See Design and Access Statement Appendix 3.1)
 - Stonework and Associated Metalwork Repairs (See Design and Access Statement Appendix 3.2)
 - Timberwork Repairs (See Design and Access Statement Appendix 3.3)
 - Decoration (See Design and Access Statement Appendix 3.4).

The Planning Portal Reference is PP- 11972456 and the required planning application fee has been paid online.

We look forward to receiving your confirmation that the application has been formally registered. In the meantime, if you have any queries or require any further information, please do not hesitate to contact Joe McElhone (0161 455 6994 [/joemcelhone@deloitte.co.uk](mailto:joemcelhone@deloitte.co.uk)) or Ellie Bird (020 7007 3891 / efbird@deloitte.co.uk)

Yours sincerely

A handwritten signature in dark ink that reads "Deloitte LLP." The signature is written in a cursive, slightly stylized font.

Deloitte LLP

Appendix A – Drawings List

Description	Drawing Reference
Site Location Plan	275/PD/001
Site Plan	275/PD/002
Existing Arrangement Drawings	
Existing Building: Basement	275/PD/010
Existing Building: Ground Floor and Ground Mezzanine	275/PD/011
Existing Building: First Floor	275/PD/012
Existing Building: Second Floor and Second Floor Mezzanine	275/PD/013
Existing Building: External Elevation	275/PD/020
Existing Building: Internal Elevation GA	275/PD/050
Wagon Arches Bay 1, Bay 2 and Bay 3 (Existing)	
Wagon Arch Glazing: Existing external and internal elevations	275/PD/101
Wagon Arch Glazing: Existing Bay 01	275/PD/110
Wagon Arch Glazing: Existing Bay 02	275/PD/111
Wagon Arch Glazing: Existing Bay 03	275/PD/112
Wagon Arches Bay 1, Bay 2 and Bay 3 (Proposed)	
Wagon Arch Glazing: Proposed external & internal elevations	275/PD/201
Wagon Arch Glazing: Proposed Works to Bay 01	275/PD/210
Wagon Arch Glazing: Proposed Works to Bay 02	275/PD/211
Wagon Arch Glazing: Proposed Works to Bay 03	275/PD/212
Cargo Door Sills	
Cargo Door Sills: Existing detail	275/PD/140
Cargo Door Sills: Proposed Works	275/PD/340
Repairs to Interior and Exterior	
Proposed Works to Existing Building: Basement	275/PD/710
Proposed Works to Existing Building: Ground Floor & Ground Mezzanine	275/PD/711
Proposed Works to Existing Building: First Floor	275/PD/712
Proposed Works to Existing Building: Second Floor & Second Floor Mezzanine	275/PD/713
Proposed Works to Existing Building: External Elevation	275/PD/720
Proposed Works to Existing Building: Internal Elevation GA	275/PD/750
Photo Reference: Essential Repairs to Ground Floor & GFL Mezzanine	275/PD/811
Photo Reference: Essential Repairs to Second Floor & 2FL Mezzanine	275/PD/813
Photo Reference: Essential Repairs GA External Elevation	275/PD/820
Photo Reference: Essential Repairs GA Internal Elevation	275/PD/850
Structural Repairs	
Basement Plan Structural Repairs	220627-CON-XX-00-DR-S-1099

Ground Floor Plan Structural Repairs	220627-CON-XX-GF-DR-S-1100
Ground Floor Mezzanine Structural Repairs	220627-CON-XX-M0-DR-S-1101
First Floor Plan Structural Repairs	220627-CON-XX-01-DR-S-1102
South Elevation Bays 1 and 2 Structural Repairs	220627-CON-XX-00-DR-S-3100
South Elevation Bays 3 and 4 Structural Repairs	220627-CON-XX-00-DR-S-3101
South Elevation Bay 5 Structural Repairs	220627-CON-XX-00-DR-S-3102
East Elevation Structural Repairs	220627-CON-XX-00-DR-S-3103
North Elevation Bays 4 and 5 Structural Repairs	220627-CON-XX-00-DR-S-3104
North Elevation Bays 2 and 3 Structural Repairs	220627-CON-XX-00-DR-S-3105
North Elevation Bay 1 Structural Repairs	220627-CON-XX-00-DR-S-3106
West Elevation Structural Repairs	220627-CON-XX-00-DR-S-3107
Basement Plan Structural Repairs	220627-CON-XX-00-DR-S-1099
Ground Floor Plan Structural Repairs	220627-CON-XX-GF-DR-S-1100
Ground Floor Mezzanine Plan Structural Repairs	220627-CON-XX-M0-DR-S-1101
First Floor Plan Structural Repairs	220627-CON-XX-01-DR-S-1102
South Elevation Bays 1 and 2 Structural Repairs	220627-CON-XX-00-DR-S-3100
South Elevation Bays 3 and 4 Structural Repairs	220627-CON-XX-00-DR-S-3101
South Elevation Bay 5 Structural Repairs	220627-CON-XX-00-DR-S-3102
East Elevation Structural Repairs	220627-CON-XX-00-DR-S-3103
North Elevation Bays 4 and 5 Structural Repairs	220627-CON-XX-00-DR-S-3104
North Elevation Bay 2 and 3 Structural Repairs	220627-CON-XX-00-DR-S-3105
North Elevation Bay 1 Structural Repairs	220627-CON-XX-00-DR-S-3106
West Elevation Structural Repairs	220627-CON-XX-00-DR-S-3107
Typical Structural Repairs Detail Sheet 1	220627-CON-XX-ZZ-DR-S-4001
Typical Structural Repairs Detail Sheet 2	220627-CON-XX-ZZ-DR-S-4002
Typical Structural Repairs Detail Sheet 3	220627-CON-XX-ZZ-DR-S-4003
Stone Repair Details	220627-CON-XX-ZZ-DR-S-4004