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Conference Hall, Frieze

Manchester Town Hall

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HIRST Conservation

Manchester Town Hall

Conference Hall, Frieze

Validation Survey

Rev 01

27/09/2022

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1. Conference Hall Frieze

1.1. General Overview

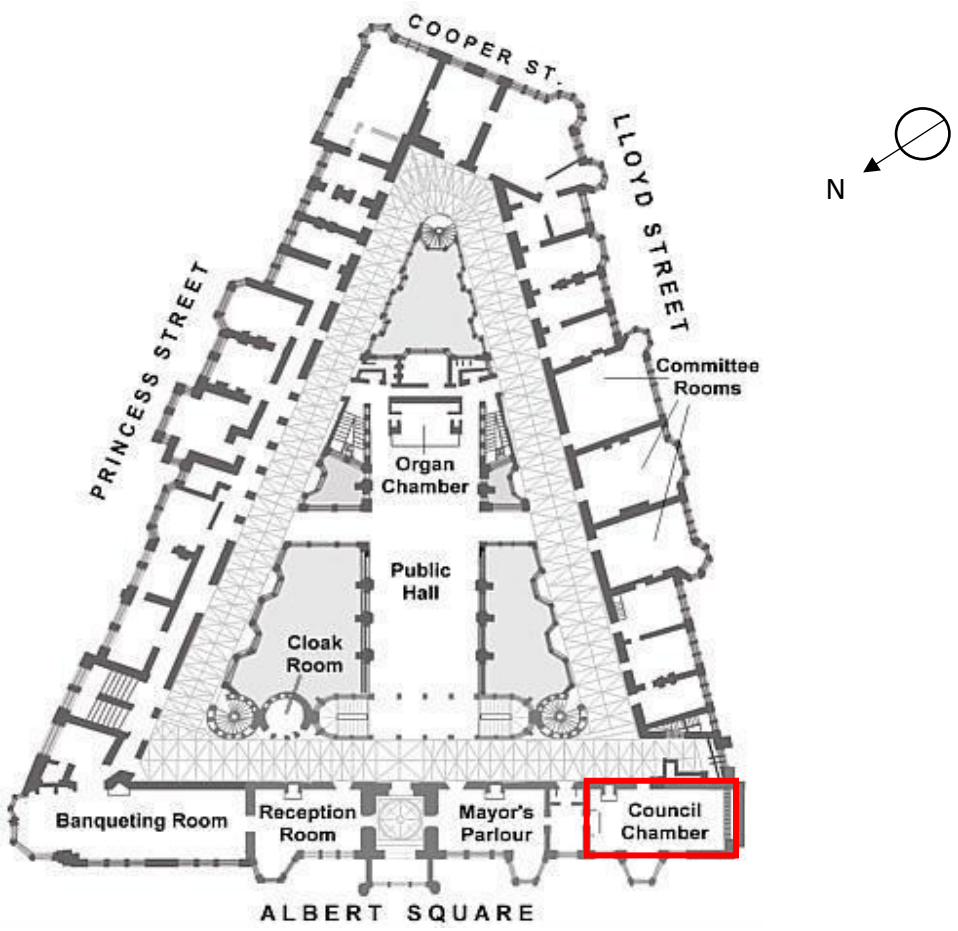


Figure 1: Plan of Manchester Town Hall, indicating the location of the Conference Hall

Above reveals the location of the conference hall situated on level 2 of the Town Hall in the North/West corner of the building.

The room itself was originally referred to as the council chamber. The frieze is located at the wall plate on the walls within the main chamber of the room. The stencilled and hand painted frieze consists of a base decoration of branches, flowers, and cotton plant buds, which then have the city arms on the North wall and other shields of the surrounding areas (such as Salford, Rochdale, Bolton, Oldham, Wigan, Preston, Stockport, Aston-Upon-Lyne, and Stalybridge) that sit upon the base decoration. The upper decorated areas of the city arms and other shields contain a high amount of gilding, while the assortment of flowers within the base decoration consist of a metallic paint.

1.2. Scope of currently agreed works

As set out in the *Scoping Schedule and Specification Report For Conservation Work to Decorative Finishes:*

> *The scope of this work includes the cleaning of the painted decoration on the plaster finishes of frieze and minor touching-in of missing, worn or flaking paint or gilding.*
>
> *Technical details of methodology and materials references as well as scoping descriptions are taken from the recommendations in the Hirst Architectural Paint Research Report dated March 2019, an extract of which is also included in Appendix F*
>
> *4.01.01 General Cleaning and Assessment of the painted plaster surfaces: Carry out a general clean to all the existing painted plaster surfaces within the Frieze area identified. A chemical sponge dampened with de-ionised water will be effective in removing dirt from these areas and they are to be thoroughly dried with cotton wool after treatment. Some of the overpaint from the early 1980's conservation works may be more sensitive to cleaning, and these should be treated with care, as identified by Hirst.*
>
> *4.01.02 Validation Inspection:*
> *The decoration was fully conserved in the early 1980s and appear from visual inspection to be generally well adhered although some cruder overpaint in acrylic may not be as compatible with the original paints as identified by Hirst. There do not appear to be any other identified condition issues. Following the general clean it will be essential that the conservators carry out a full visual inspection of the painted surfaces to determine any condition issues that have not been foreseen and to validate the scope of any further required action. The extent of any minor defective overpainting to be removed may therefore require further assessment, however, it must be assumed until this has been done that all the areas are sound. A more detailed understanding of the overpaint will inevitably be achieved during the actual works, from increased familiarity of the painted surface and the impact of the general cleaning. All areas that are subsequently identified to be removed should be fully recorded in detail (photographically and with gridded tracings) to enable faithful reinstatement.*
>
> *4.01.03 Cleaning Areas of Gilding:*
> *These features can be additionally cleaned with a solution of tri-ammonium citrate (3% in deionised water) applied with cotton swabs, cleared with deionised water, and dried with cotton wool. This process effectively removes the dirt coating on the gilding and greatly improves the reflectance properties. This is considered to be beneficial to all the gilding and is included in the scope required. Any significant losses of gilding are to be in-filled to match with equivalent quality and colour of gold leaf on oil size but as the current gilding is relatively recent it is assumed at present that all the gilding will clean without any loss.*

1.3. Validation Survey Scope

Assessment of the frieze was undertaken from scaffold access in July 2022, at which time partial access was available. Access is now fully in place, allowing assessment of all areas, with the exception of the west side of the City Arms, due to the location of the scaffold ladder.

Following a meeting on site between Purcell, Lendlease and Hirst Conservation on Thursday 22nd September, review of additional works to the painted decoration was undertaken.

The following report includes a description and list of additional condition notes and actions required for each elevation under item 0, and proposals for additional works under section 3.

1.4. Survey Limitations

We have not undertaken any salt or moisture profiling and assume that the building envelope is sound and ongoing moisture movement is not an issue. No assessment of environmental conditions within the room or at the surface of the painted decoration has been undertaken as part of our site survey.

In accordance with directions on site, the main focus of this report is on the painted decoration. Only active areas of plaster have been identified for intervention. No tactile survey of the plaster was undertaken.

2. Results of assessment

2.1. General condition

The overall condition of the frieze is **good.**

Plaster

No detailed inspection was undertaken to the plaster. There is a network of cracks, many of which have darkened break edges suggesting that they are historic and generally appear stable, although a full tactile survey has not been undertaken. One localised blown area of plaster was noted on the north elevation.

Paint

Visual inspection indicates that the frieze is generally in good condition. Much of the frieze is believed to retain original finishes, although several phases of later intervention were noted.

Assessment in raking light clearly indicates that the painted decoration has suffered from paint delamination and flaking historically. Evidence of previous consolidation (presumed 1980s), together with ongoing flaking and detachment was noted. Areas of loss have been previously retouched/ recreated to a very good level. Treatment records have not been made available.

The cotton seed pods and flowers have received some overpainting to strengthen their appearance from ground level. An impasto technique has been used to the seedpod, presumably to impart textural quality.

The frieze is varnished, this may date to the 1980s conservation. No analysis of the varnish has been undertaken as part of this survey.

The surface of the frieze has surface lying dust deposits, which are tacky to the touch.

2.2. North Elevation

Observations

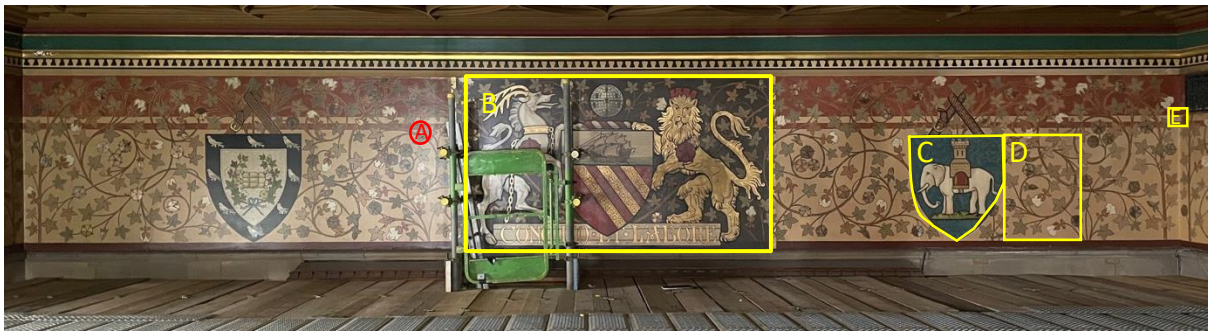


Figure 2: Conference Hall, complete North wall of frieze, internal wall structure

Measurements of just the frieze decoration	Height = 1.5m Width = 8.5m Total of approx. 12.75m^2
Surface Dust	*The entire surface was found to be covered in dust which appeared to be slightly greasy/tacky to the touch. The surface deposits were accumulated at the base of the frieze and near air vents – which had a heavy build-up of surface dust deposits.* *Please see Figure 12 as an example*
Fractures	Fractures were noted across the surface. Approximately within an area of 1m^2 5m of fractures were visible. No tactile survey was undertaken as part of this work, however no significant movement of the plaster was noted. *Please see Figure 13 as an example*
Plaster Detailing	While a tactile survey was not conducted, when a raking light was used in the validation survey areas of plaster appeared to have blown/delaminated which did present movement. On the North wall areas of blown/delaminated plaster accumulated to 1 area approximately 100mm diameter. *Please see Figure 14*
Paint Delamination & Loss	Various areas across the entire North wall revealed visible signs of paint delamination, concentrated in areas of upper decoration of the city arms and the Bolton Coat of arms, with additional failure to the floral frieze to the east end of the wall. The failure is ongoing, with losses noted between July and September 2022. The failure may be attributable to a discrepancy between the surface tension of different paint schemes, and/or other contributing environmental factors. Some shrinkage cracks were also noted in the paint coatings.

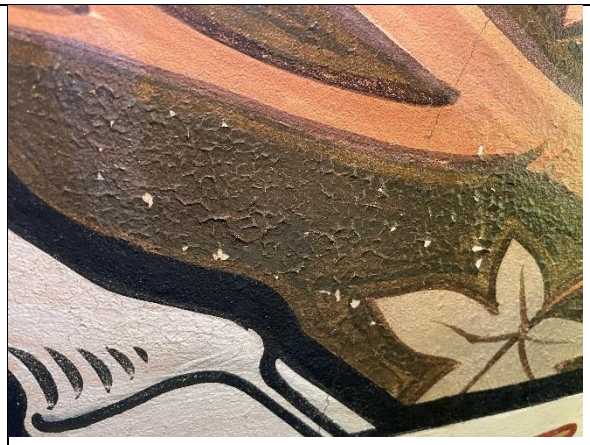
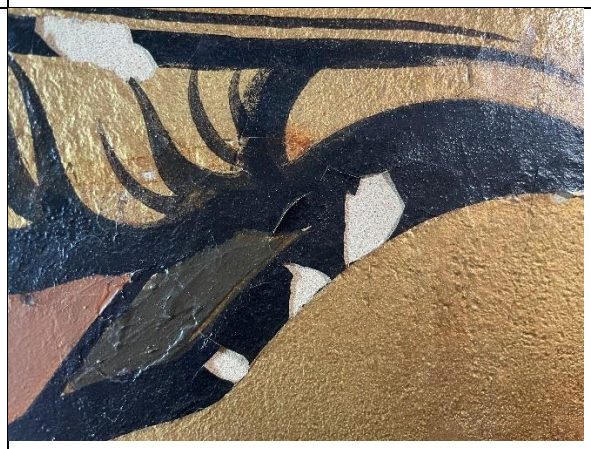
General Details *Including surface abrasions, water ingress and historic repairs*	In raking light, the terrain of the surface was uneven to the City Arms, Bolton Arms and east end of the wall. The paint appears to have been consolidated previously, and areas of loss have been reintegrated to a good standard. It should also be noted that within the base decoration the flowers and buds appear to be painted in a metallic paint, while the city arms and shields contained a significant amount of gilding.
Gilding	The gilding generally appears in good condition, with approximately 5-10% of each shield contains gilding, while the city arms contains approximately 20-30% gilding.

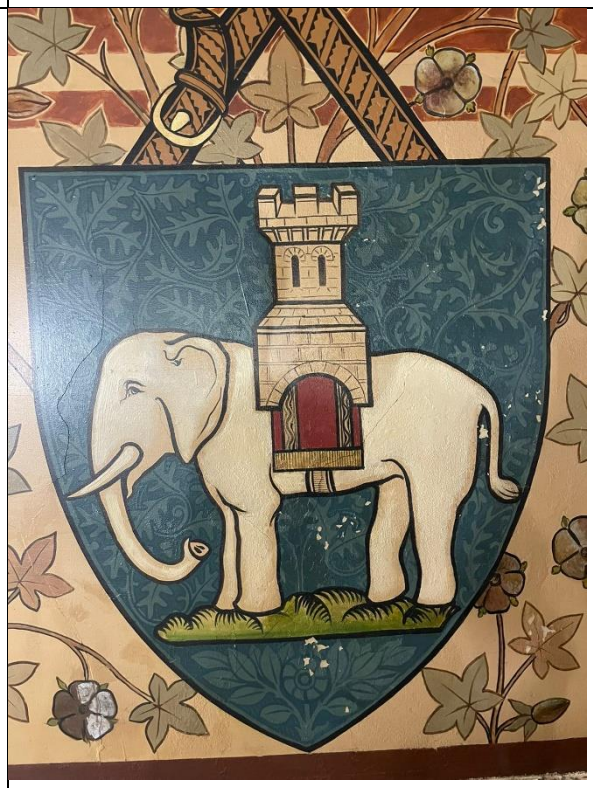
North Wall additional items and note of condition



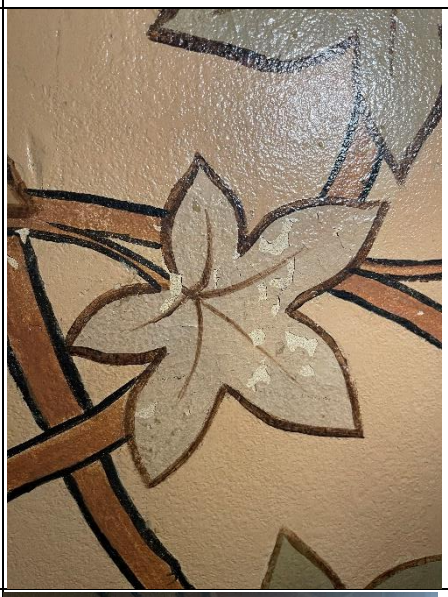
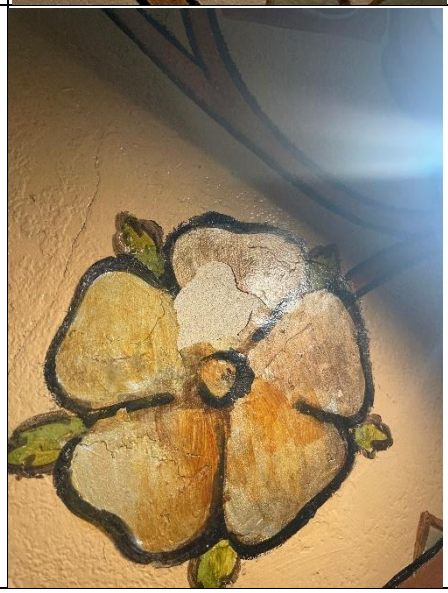
Key
- Plaster stabilisation
- Paint consolidation

Location	Image	Note
A		Foliate painted frieze: Area of plaster approx. 100mm diameter actively detaching. **Additional works required:** Allow to remove and re-bed.
B		City Coat of Arms: Flaking evident to various locations across the coat of arms. **Additional works required:** Paint requires consolidation, swab cleaning and additional retouching. No interventions to plasterwork proposed as part of this phase of works.

		Detail: west side, above unicorn hoof
		Detail: Central painting of ship, extensive flaking and some loss
		Lion's jaw, flaking, detachment and loss

		Leaf detail: Flaking, detachment and loss where original paint is extant. Note previous retouching of loss above leaf.
C	Bolton coat of arms	Extensive active paint flaking and detachment. **Additional works required:** Paint requires consolidation, swab cleaning and additional retouching. No interventions to plasterwork proposed as part of this phase of works.
		Overall image shows numerous areas of failure and loss to the right half of the shield.

		Detail of detachment, flaking and loss to area below gilded ground. Cracking to plaster also evident.
		Detail of detachment, flaking and loss to area below elephant's stomach. Cracking to plaster also evident.
D	Frieze to east side of north wall	
		Various areas of flaking and detachment to the east of the Bolton shield and into the corner. **Additional works required:** Paint requires consolidation, swab cleaning and additional retouching. No interventions to plasterwork proposed as part of this phase of works.

		Flaking and paint loss to leaf.
		
		

E		Blister to NE corner, **Additional works required:** Paint requires consolidation, swab cleaning and additional retouching.

2.3. East Elevation

Observations

The East wall consisted of the frieze decoration uninterrupted at the Northern end, while the Southern end of the wall had a disrupted frieze between 4 stone arches.

Due to the length of wall, the East elevation had to be spit up onto 4 parts. Figure 8 is the northern end of the East wall, while figures 9-11 reveal the consecutive order from north to south between the 4 stone arches. For the purpose of this document, the isolated areas of frieze decoration shall be labelled 1-6 from north to south along the East wall.



Figure 3: Conference Hall, East wall, Northern end. Frieze E1



Figure 4: Conference Hall, East Wall, mid wall. Frieze E2 & E3



Figure 5: Conference Hall, East Wall, mid wall., Frieze E4 & E5



Figure 6: Conference Hall, East wall, Southern end. Frieze E5 & E6

Measurements of just the frieze decoration	E1: Height = 1.5m Width = 6m =9m^2 E2, E3, E4, E5: = 1.5m^2 in each section Total of approx. 16.5m^2
Surface Dust	The entire surface was found to be covered in dust which appeared to be slightly greasy/tacky to the touch. The surface deposits were accumulated at the base of the frieze and near air vents – which had a heavy build-up of surface dust deposits. *Please see* Figure *12 as an example*
Fractures	Fractures were noted across the surface. Approximately within an area of 1m^2 5m of fractures were visible. No tactile survey was undertaken as part of this work, however no significant movement of the plaster was noted. *Please see* Figure *13 as an example*
Plaster Detailing	There were no areas found which had blown/delaminated and actively moving. Some possible previous consolidation of existing blisters, which appear to be stable.
Paint Delamination & Loss	Paint loss and active flaking is present to the north end, adjacent to the ventilation grill. This may have been consolidation previously and may relate to environmental variations. Additional blistering of the paint was noted to the arcade, E3. Please see figure 6 as an example.
General Details *Including surface abrasions, water ingress and historic repairs*	Surface abrasions around stonework were noted, potentially due to maintenance such as dusting etc. These are localised and limited in nature. Previous cleaning trials are located to area E1. *Please see* Figure *17* Evidence of (previous?) water ingress was noted from the wall plate on E5 which travelled in a northern direction along with stone archway edge. The flowers and cotton pods have been overpainted.

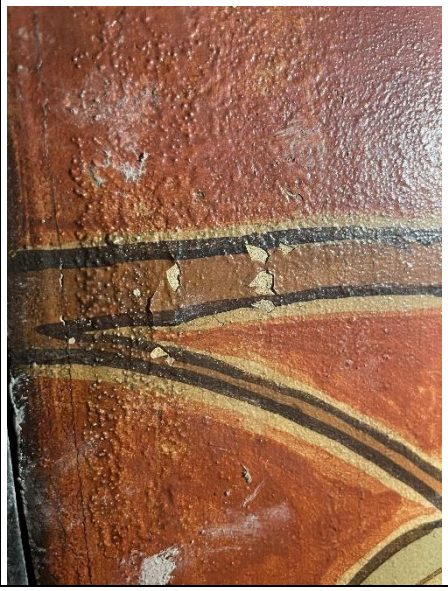
Gilding	Approximately 40% of the northern and central shields contains gilding, while the southern shield contains about 10-15%.

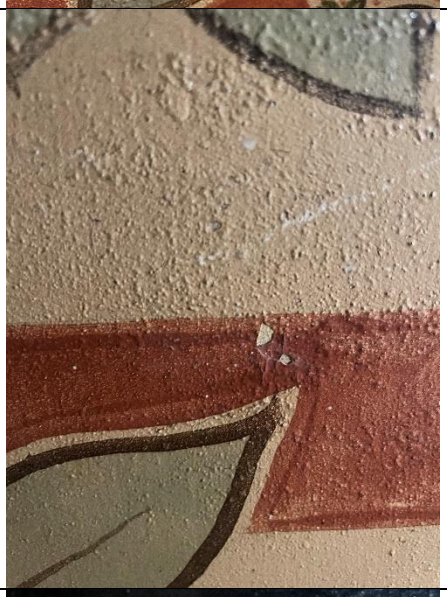
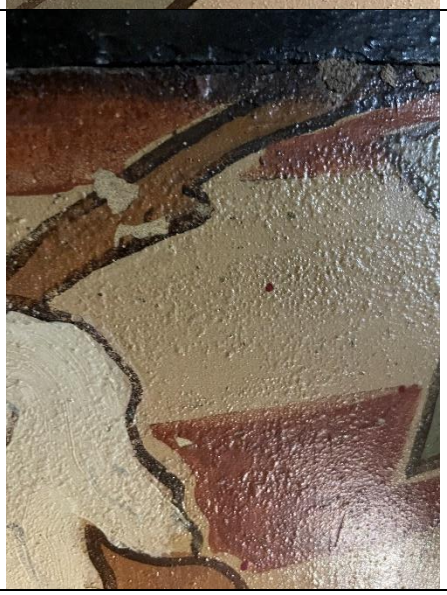
East Elevation additional items and note of condition

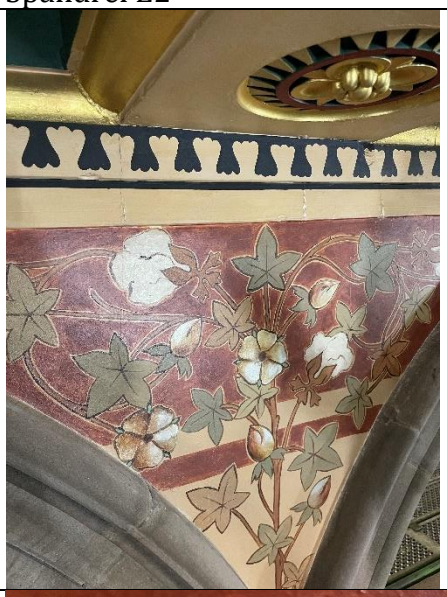
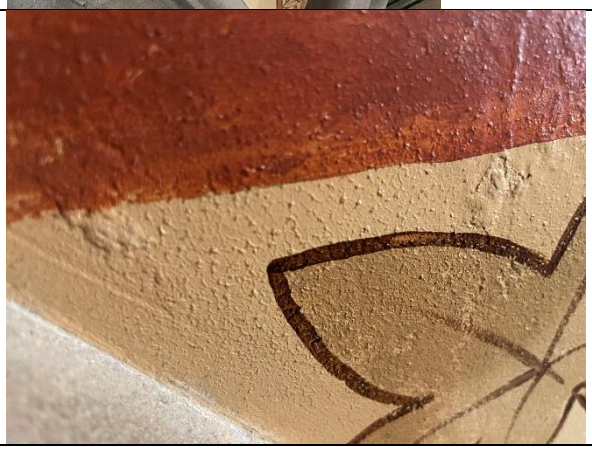


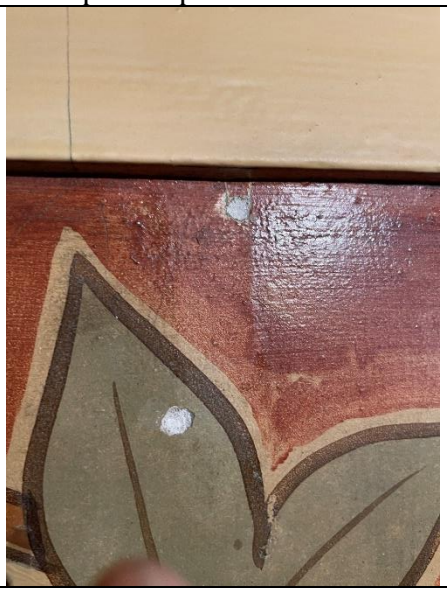


Key
- Plaster stabilisation
- Paint consolidation
- Retouching

Location	Image	Note
F	Flaking and loss to paint around air vent	Additional works required: Paint requires consolidation, swab cleaning and additional retouching. No interventions to plasterwork proposed as part of this phase of works.
		Detail of flaking and loss of figurative paint work and historic (?) texture to plaster.

G	Spandrel E2	
		Overall view of area.
		Detail of blistering of paint. , Additional works required: Paint requires consolidation.

H	Examples of previous losses	
		Minor mechanical paint losses – retouch only

2.4. South Elevation

Observations

For photographic purposes the South elevation was split into 2 images, revealing 3 areas of isolated frieze labelled, S1, S2, and S3.



Figure 7: Conference Hall, South wall, Eastern end, S1 & S2



Figure 8: Conference Hall, South wall, Western end, S2 & S3

Measurements of just the frieze decoration	S1, S2, S3 = total of 1.5m^2 in each isolated section. Total of approx. 4.5m^2 across the south wall.
Surface Dust	The entire surface was found to be covered in dust which appeared to be slightly greasy/tacky to the touch. The surface deposits were accumulated at the base of the frieze and near air vents – which had a heavy build-up of surface dust deposits. *Please see Figure 12as an example*
Fractures	Across the majority of the surface were a network of fractures. The majority did appear to be hairline, and on closer inspection did run underneath/through the shields. Once again isolated areas of the frieze within S1, S2 & S3 had fractures which appeared less frequent than in areas of large uninterrupted frieze. These fractures ran lineally rather than horizontally.

Plaster Detailing	There were no areas found which had blown/delaminated during limited assessment.
Paint Delamination & Loss	Some localised blistering to the west end was noted.
General Details *Including surface abrasions, water ingress and historic repairs*	In raking light, the terrain of the surface was uneven in places, noted across the entire frieze. The unevenness of the wall was suggestive of a historic paint scheme which may have failed in the past, loose areas scraped off, and a new scheme repainted. Historic repairs were visible along the South wall. Equally, surface paint abrasion was noted around the arches. This may have been caused by the sharp end of a duster going over the stone arches, due to the irregular and singular line. Some of these abrasions had since been in-painted, indicating the abrasion to be historic. *Please see Figure 17as an example.*
Gilding	None

South Wall addition works and condition notes



Key
- Plaster stabilisation
- Paint consolidation
- Retouching

I	West End	
		Blistering of paint, appears to relate to inclusions in the plaster although several of the blisters were noted to require consolidation. Additional works required: Paint requires consolidation, swab cleaning and additional retouching. No interventions to plasterwork proposed as part of this phase of works.

2.5. West Elevation

For photographic purposes the West wall has been split into 3 images, which consist of 4 isolated areas of frieze: W1, W2, W3 & W4, moving consecutively south to north.

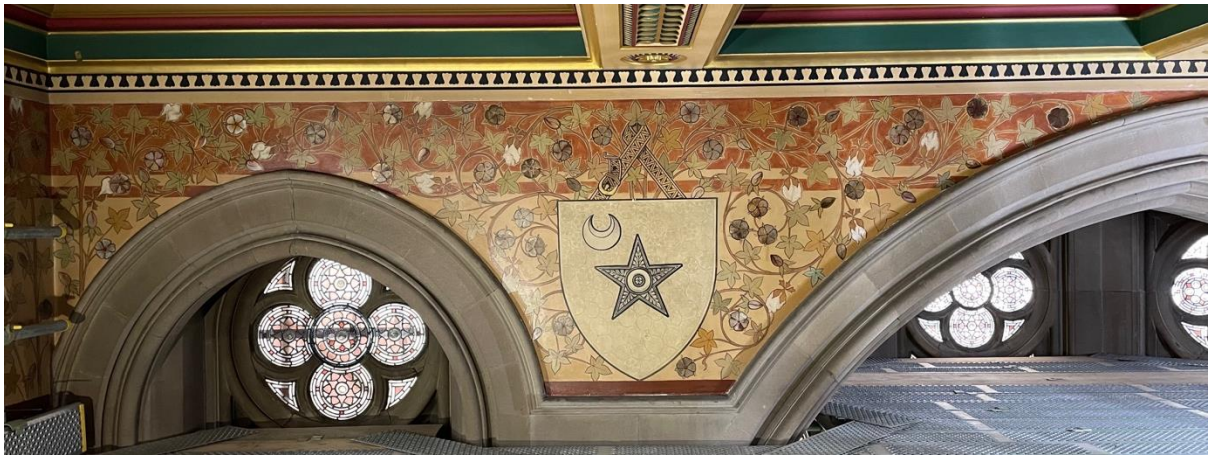


Figure 9: Conference Hall, West wall, southern end, W1



Figure 10: Conference Hall, West wall, mid-south end, W2

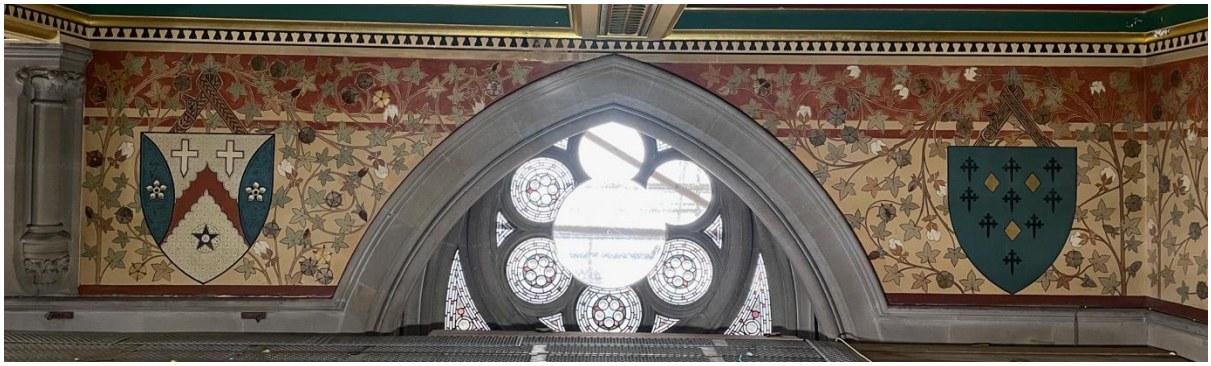
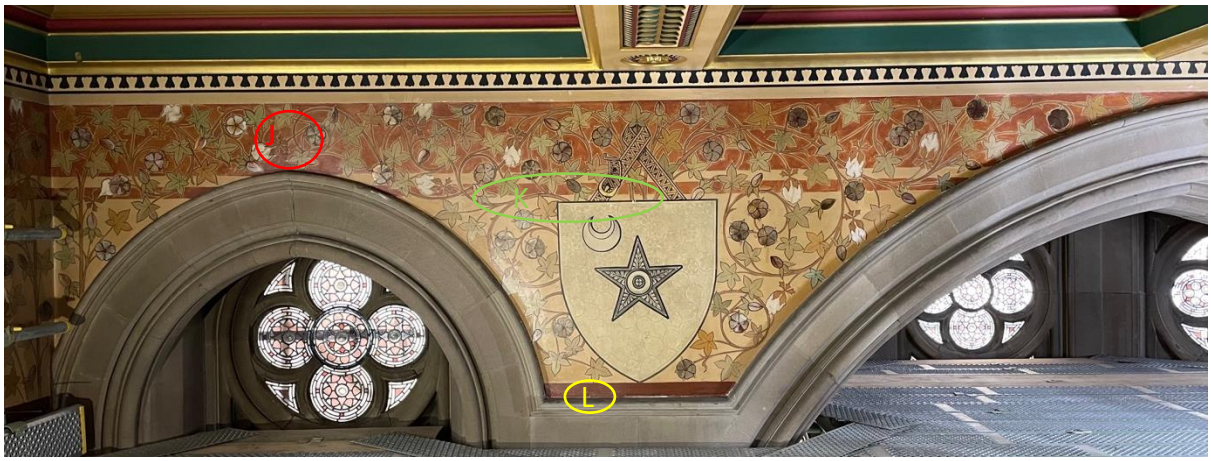
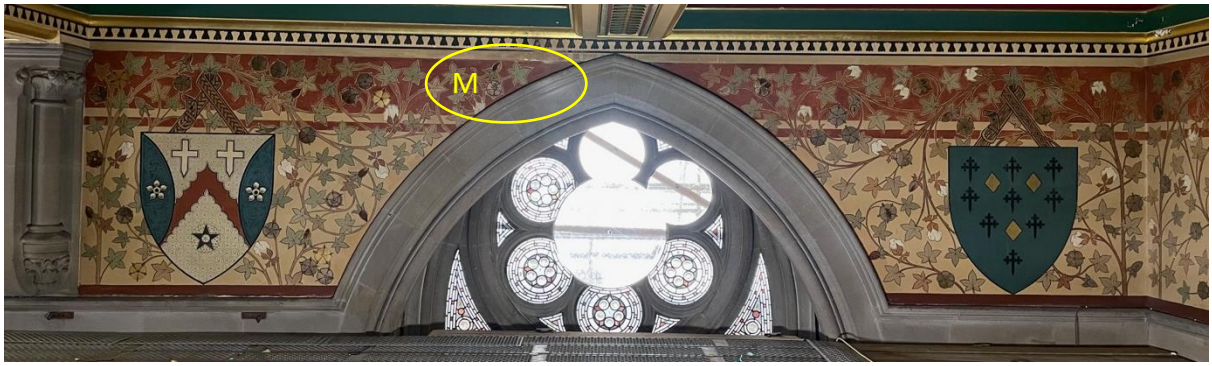


Figure 11: Conference Hall, West wall, northern end, W3 & W4

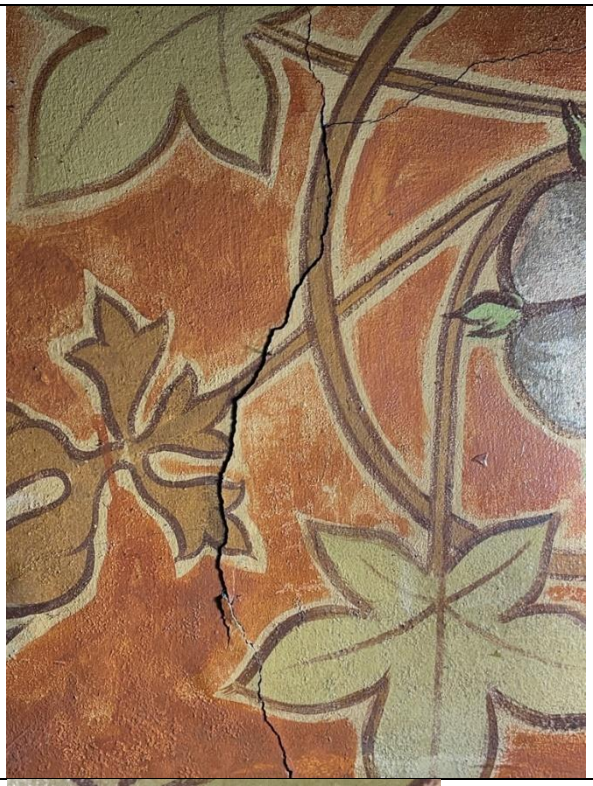
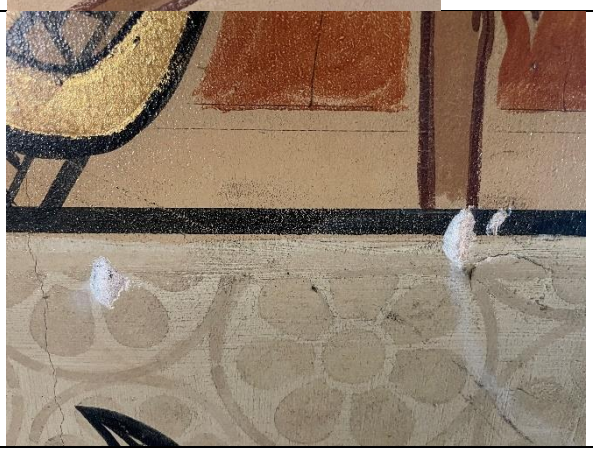
Measurements of just the frieze decoration	W1 & W2 = total of 6m^2 in each section W3 & W4 = total of 4m^2 in each section Total of approx. 20m^2 across the west wall.
Surface Dust	The entire surface was found to be covered in dust which appeared to be slightly greasy/tacky to the touch. The surface deposits were accumulated at the base of the frieze and near air vents – which had a heavy build-up of surface dust deposits. *Please see* Figure *12as an example*
Fractures	Across the majority of the surface were a network of fractures. The majority did appear to be hairline, and on closer inspection did run underneath/through the shields. However, quite a few areas displayed larger fractures with some displacement. Areas of these fractures may be vulnerable due to islands within the plaster being created, although these areas appear to have been stabilised previously.
Plaster Detailing	While a tactile survey was not conducted, when a raking light was used in the validation survey areas of plaster appeared unaligned but didn't present any movement.
Paint Delamination & Loss	Approximately 2m^2 of the West wall revealed visible signs of paint delamination, concentrated in both areas of upper decoration of shields and the base decoration. There could be a discrepancy between the surface tensions of different paint schemes, and/or other contributing environmental factors such as water ingress as it is an external wall. Equally fractures were present within the paint layer, indicating shrinkage.
General Details *Including surface abrasions, water ingress and historic repairs*	In raking light, the terrain of the surface was very uneven. The unevenness of the wall was suggestive of a historic paint scheme which may have failed in the past, loose areas scraped off, and a new scheme repainted. Historic repairs were visible along the West wall. Surface paint abrasion was noted around the arches. This may have been caused by the sharp end of a duster going over the stone arches, due to the irregular and singular line. Some of these abrasions had since been in-painted, indicating the abrasion to be historic. *Please see figure 16 & 17 as an example.*
Gilding	Approximately 5% of the shield in W1 contains gilding, 10% of the shield in W2 contains gilding, 5% of the shield in W3 contains gilding, 5% of the shield in W4 contains gilding.

West Wall





Key
- Plaster stabilisation
- Paint consolidation
- Retouching

j	West End	
		Positioned above the window arch, cracking in plaster – appears to have been previously stabilised. The crack is displaced and has several small shards along the break edge. Initial inspection indicates that this is currently stable, but this area should be monitored for future movement/ loss.
K		Minor mechanical paint losses – requires retouching.
		

L		Localised detachment and loss. Additional works required: Paint requires consolidation, and retouching. No interventions to plasterwork proposed as part of this phase of works.
M	Flaking paint to south of the northern most window	
		Visual inspection indicates that this area has been previously consolidated and retouching/ reconstructed. Active flaking and loss of paint films apparent in this area. Additional works required: Paint requires consolidation, swab cleaning and additional retouching , to include recreation of missing detail.. No interventions to plasterwork proposed as part of this phase of works.
		

3. Recommendations

3.1. Recommendations

Paint Analysis

Previous paint analysis undertaken in March 2019 by Hirst Conservation ltd, took a limited number of samples from the frieze. The samples that were taken (for reference sample 394), indicated that the visible scheme of the frieze was the only one created in lead oil paints with an off-white primer/undercoat [1]. However, evidence of an uneven terrain across the surface of the frieze indicated there may be another paint scheme/layers underneath which had historically deteriorated significantly (see figure 6 & 7).

Therefore, it would be beneficial for further paint analysis to be conducted across all elevations of the frieze to gain a deeper understanding if an earlier paint scheme was evident to establish if there is a correlation between the extant coatings and pattern of failure. This is recommended but not costed at this time.

Tactile Survey

There has been no detailed assessment of the stability of the plaster. Where obvious defects have been noted, recommendations are provided for repair. During cleaning works, additional areas may be identified for plaster stabilisation. Given access is in place, it would be an opportunity to assess the overall stability and allow for any further remedial works if required. This is recommended but not costed at this time.

3.2. Treatment Adjustments

Plaster Stabilisation:
One blown section of plaster was noted to the north wall. It is proposed that this should be secured by careful removal of the section and rebedding. The condition of the plaster and suitable fixing methods will be reviewed once the plug of detached plaster is removed. It is assumed at this stage that the plaster will be rebedded with casting plaster/ lime putty or a PLM mortar, followed by filling with the same and retouching in stable, artists acrylics.

Paint Consolidation:
Prior to any surface cleaning from taking place, the vulnerable areas of paint delamination would need to be consolidated to retain as much original material as possible and ensure paint stability.

[1] Our Town Hall Manchester City Council. *Scoping Schedule and Specification Report For Conservation Work to Decorative Finishes.* OTH-PUR-TH-ZZ-RPT-A-0168. Page 71

Surface Cleaning:

While the level of surface dust and deposits were loose they did retain a level of greasy/tackiness. Therefore, these could be removed using a brush and vacuum extraction that has a gauzed nozzle, so that consolidation of plaster and paint can be conducted with less deposits obscuring the area. However due to the greasy nature of the surface deposits, it would be anticipated that dry surface cleaning may be less efficient than wet surface cleaning techniques.

Due to the amount of metallic paint evident within the scheme, the use of melamine/magic sponges cleaning would not be suitable to all areas due to the micro-abrasive properties of the sponge. Equally the level of paint delamination visible across the frieze are highly vulnerable and will be at extreme risk of loss if cleaning with the use of a sponge was conducted. Cleaning with a combination of cotton wool in hand swabs which would not cause abrasion to the gilding or metallic paints together with chemical sponges will reduce the risk of damage to fragile/ sensitive areas of decoration. Trials are required to establish the most suitable materials for cleaning with swabs. Trials will include deionised water with Synperonic A7, and weak tri ammonium citrate (anticipated 4%, cleared with deionised water).

Consolidation:

Given that evidence indicates that the decoration is largely the original scheme with the exception of some later interventions to the cotton plants flowers and seed pods , no removal of flaking paint is recommended.

It is evident from the inspection that areas of the frieze are actively deteriorating and require stabilisation. Trials are required to confirm the most effective methodology. It is anticipated that consolidation using Paraloid B72 between 10-20% strength in acetone will be effective at securing the flakes, applied by brush or syringe and laid flat with a heated spatula and silicone release paper.

Future monitoring:

Flaking was noted to be particularly evident to the north and west wall, and has previously been consolidated by others. It is assumed that the building envelope and environment will be stable going forwards, and this should therefore be beneficial in the long-term preservation of the finishes. Following consolidation, these areas will act as a 'telltale' should deterioration factors still be active, and should be reviewed on a quinquennial basis.

A small section of blistering paint was noted to the west end of the south wall. Generally, these blisters appear solid however several were noted to be hollow. The cause of this is unclear and may be salt related. We recommend that this area is monitored.

Photographic appendix

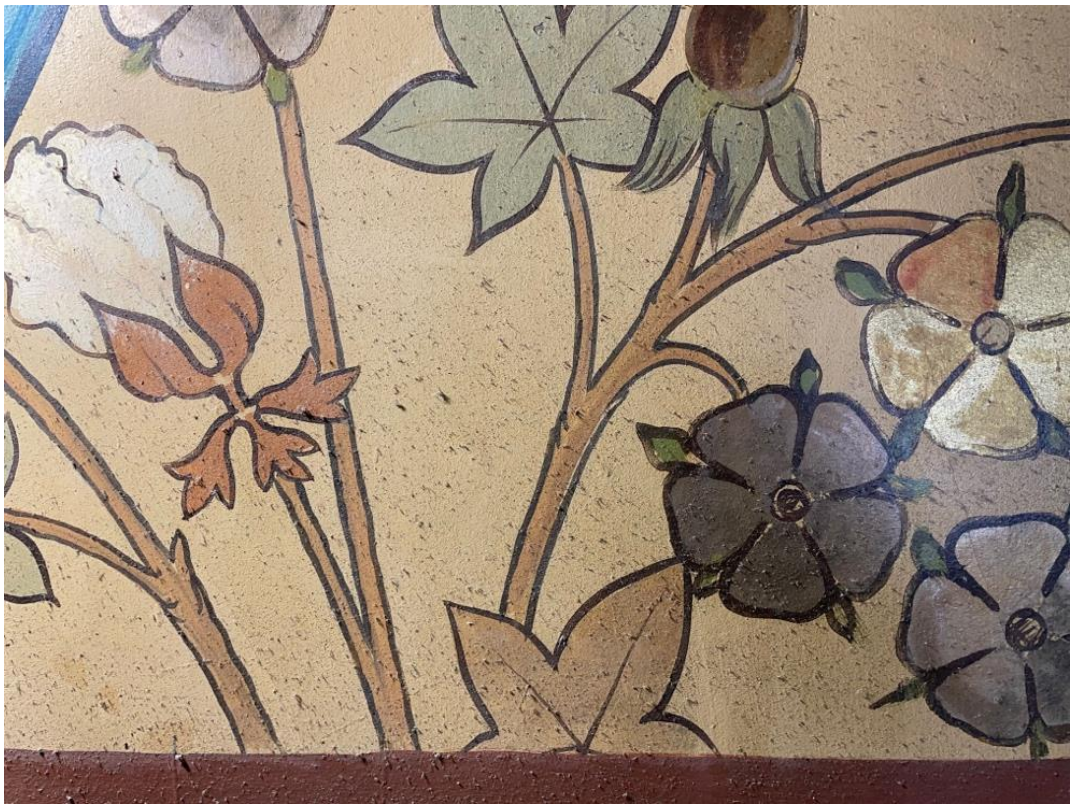


Figure 12: Example of level of surface deposits across the entire surface of the frieze. This image was taken at the West wall, Northern end.



Figure 13: Example of the hairline fracture network across the frieze. This image was taken at the East wall, Northern end.



Figure 14: Example of blown/delaminated plaster. Image taken from the North wall, Western side, approx 250mm^2



Figure 15: Example of extensive paint delamination. Image taken from the North wall, within the city arms. July 2022



Figure 16: Example of the wall terrain revealing the uneven surface of potentially the earlier paint scheme/s. Image taken from North wall by the lions tail in the city arms.

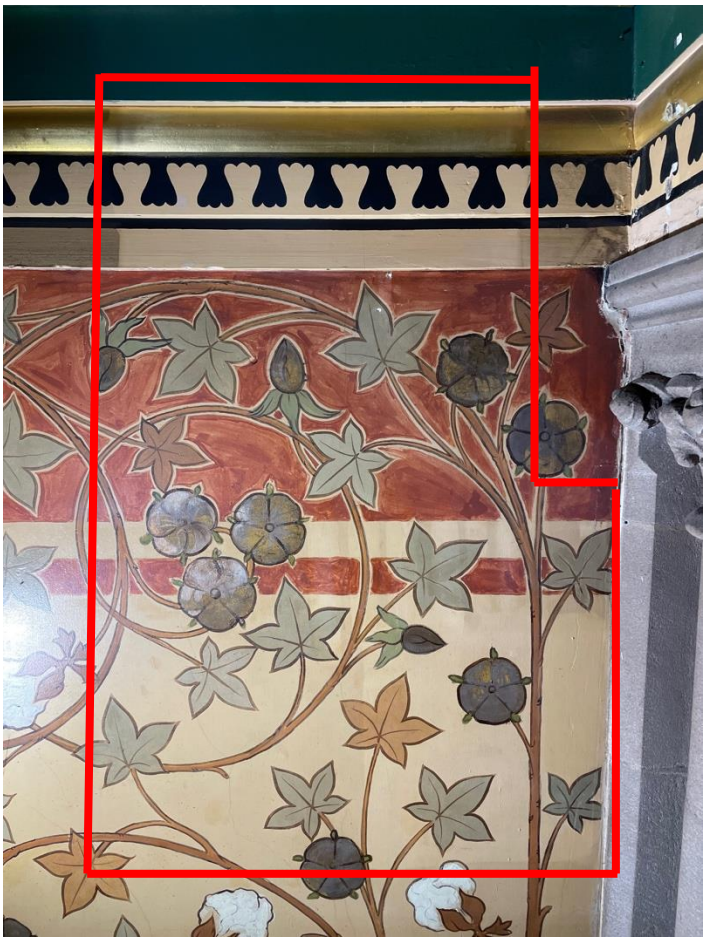


Figure 17: East wall, E1 at the southern end, previous cleaning trials indicated within the red border



Figure 18: South wall, area S2, revealing the metallic paint within the flower buds of the base decoration



Figure 19 (left): South wall, S2, detailing abrasive mark which had been partially in-painted.

Figure 20 (right): South wall, S2, closer detail of surface abrasion of figure 16