



Figure 31: WP.0.16 (Credit Fairhurst 2022)



Figure 32: WP.0.16 (Credit Fairhurst 2022)



Figure 33: WP.0.16 (Credit Fairhurst 2022)



Figure 34: WP.0.16 (Credit Fairhurst 2022)



Figure 35: WP.0.16 (Credit Fairhurst 2022)



Figure 36: WP.0.16 (Credit Fairhurst 2022)



Figure 37: WP.0.16 (Credit Fairhurst 2022)



Figure 38: WP.0.16 (Credit Fairhurst 2022)



Figure 39: WP.0.16 (Credit Fairhurst 2022)



Figure 40: WP.0.16 (Credit Fairhurst 2022)



Figure 41: WP.0.16 (Credit Fairhurst 2022)



Figure 42: WP.0.16 (Credit CubicWorks 2023)



Figure 43: WP.0.16 (Credit CubicWorks)



Figure 44: Credit WP.0.16 (Credit CubicWorks 2023)



Figure 45: WP.0.16 (Credit CubicWorks 2023)

2.13: WP.0.17 Window Condition (Repair)

Figures 42 -45 below shows a visual representation of the 17th window located on the courtyard elevation, the bullet point below explains the current condition;

- 2no cracked panes of glass
- 4 no panes of glass missing
- 5m badly damaged glazing beads
- 2no sash stays missing
- External cill 1m rotten
- External window full of screws and nails



Figure 46: WP.0.17 (Credit Fairhurst 2022)



Figure 47: WP.0.17 (Credit Fairhurst 2022)



Figure 48: WP.0.17 (Credit Fairhurst 2022)



Figure 49: WP.0.17 (Credit Fairhurst 2022)



Figure 50: WP.0.17 (Credit CubicWorks 2023)



Figure 51: WP.0.17 (Credit CubicWorks 2023)



Figure 52: WP.0.17 (Credit CubicWorks 2023)



Figure 53: WP.0.17 (Credit CubicWorks 2023)



Figure 54: WP.0.17 (Credit CubicWorks 2023)

2.14: WP.0.18 Window Condition (Replace)

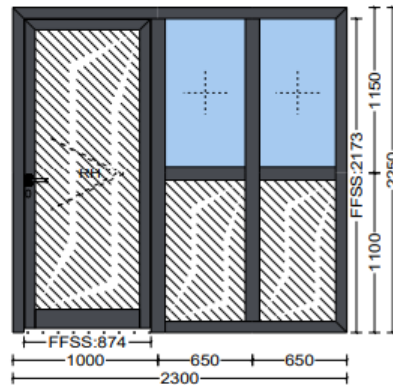
Figure 46 below shows a visual representation of the 18th window located on the courtyard elevation, the bullet point below explains the current condition;

- Opening to receive new aluminum Door and Window



Figure 55:WP.0.18 (Credit Fairhurst 2022)

WP.0.18 Door Element 2300 mm x 2250 mm, Consisting of a Single Door and four Fixed Fields. 1 Pcs.



Exterior View
System: Aluprof MB-70 MB-70
Manual Swing Door
Face Fixed Closer
Lever Handles
Face Fixed Flag Hinges
Low Ramped Drainage Threshold Strip

Colours

Profiles: RAL 7015 (Slate grey)

Filling:

3 Pcs.	P1
	2mm Aluminium / 24mm Solid Core Insulation / 2mm A
2 Pcs.	G1
	6mm Toughened / 16mm Argon Filled Spacer / 7.5mm Laminated

Figure 56: Replacement of WP.0.18 Specification

2.14.1 Update2023

CubicWorks have replaced WP.0.18 With an Aluminum slate grey 2300x2250mm manual swing door and four fixed field two of which are glazed.



Figure 57: WP.0.18 (Credit CubicWorks 2023)



Figure 58: WP.0.18 (Credit CubicWorks 2023)

02/08/2023
Conservation

3.0 Window Defects Schedule

Window No.	Description	Existing Paint Colour	Type Fixed (F) Side Hung (SH) Sash & Case (SC) Bottom Hung (BH) Top Hung (TH) Pivot (P)	Comments & Action	Repair, Replace, New Replica
WP.0.07	12 Nr Pane Casement 10 Meter Glazing bead damaged, 1m Glazing bar. Window board down stand badly damaged. External Cill rotten in areas. Window full of redundant screws and nails.	Black and Grey	TH	5 Nr Pane glass to be replaced, 10 m of glazing bead to addressed. Damaged Window board needs splicing Window full of redundant screws and nails, to be removed.	Replace

WP.0.08	12 Nr Pane casement. 1m Glazing bar. Window board down stand badly damaged. External Cill rotten in areas. Window full of redundant screws and nails.	Black and Grey	TH	8 Nr pane glass to be replaced. 10 Meter Glazing bead damaged, to be replaced. Damaged Window board needs splicing. Window full of redundant screws and nails, to be removed.	Repair
WP.0.09	No Window present.	N/A	TH	The heritage contractor has proposed that a replica timber casement windows, single glazed is solution for this window.	New Replica
WP.0.10	New pane of glass. 6m of glazing bead damage. External Cill rotten in areas.	Black and Grey	TH	1 Nr pane of glass to be replaced. Window full of redundant screws and nails, to be removed.	Repair

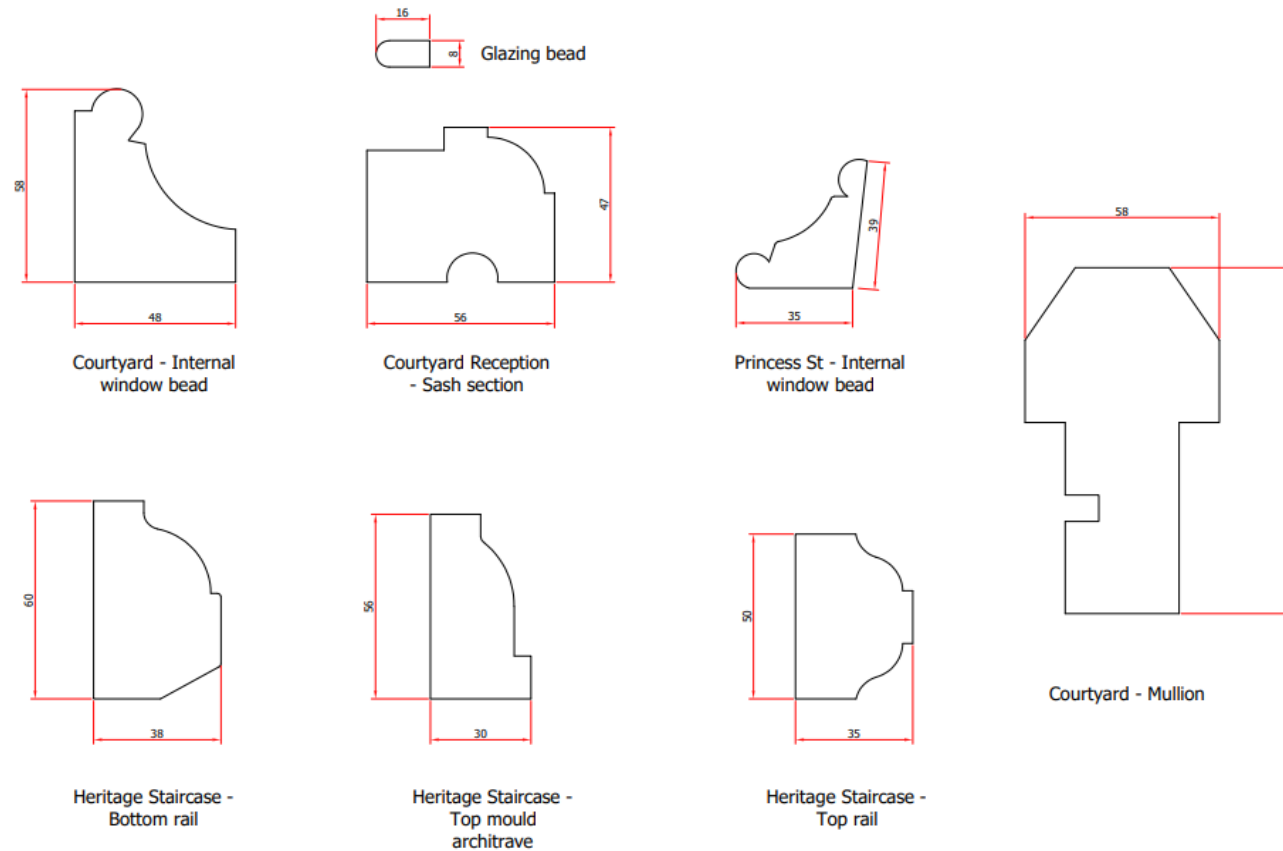
WP.0.12	Further survey required as the small window to the internal and external side is bricked up.	N/A	TH	Further survey required as the small window to the internal and external side is bricked up.	New Replica
WP.0.11	Currently glass blocks window opening.	Black Externally	TH	The Heritage Contractor has proposed that a replica timber casement windows, single glazed is solution for this window.	Replace
WP.0.13	4Nr Panes of Glass are missing. 10 m glazing bead damaged. Stays missing. Window full of redundant screws and nails.	Black and Grey	TH	Window full of redundant screws and nails, to be removed. The Heritage Contractor has proposed that a replica timber casement windows, single glazed is solution for this window	Repair

WP.0.14	Mullion missing 1nr sash missing 1nr sash badly damaged Bottom rail to window missing 6Nr panes of glass missing 6m glazing bead missing Window board needs splicing Stays missing Window in poor condition External window cill rotten	Black and Grey	TH	Timber casement windows, single glazed is solution for this window.	Replace
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WP.0.15	Mullion missing 1 sash missing 1 sash badly damaged Bottom rail to window missing 6Nr Panes of glass missing 6m Glazing bead missing Window board needs splicing Stays missing Window in poor condition External window Cill rotten	Black and Grey	TH	Due to the condition of the window this window is beyond repair and replacement is required.	Replace
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WP.0.16	Five Panes of glass missing 2 Sash stays missing 6m of glazing bead missing External cill 1.5m rotten ng/damaged	Black and Grey	TH	The Heritage Contractor has proposed that a replica timber casement windows, single glazed is solution for this window.	Repair
WP.0.17	2no cracked panes of glass 4 no panes of glass missing 5m badly damaged glazing beads 2no sash stays missing External cill 1m rotten External window full of screws and nails	Black and Grey	TH	No Original comment no access at the time of original report – Revised report September 2022 this window is in a condition that can be repaired.	Repair
WP.0.18	Opening to receive new aluminum Door and Window	Black and Grey	TH	The Heritage Contractor has proposed a Solid metal door set and an Aluminium framed, fixed light, double glazed for the window opening.	Replace

4.0 Fairhurst – Window Mouldings



Darren Fairhurst - Princess Park Mouldings 1:1 Scale

Figure 60 – Heritage Mouldings Not to scale (Credit Fairhurst 2022)

5.0 Sample Repair Window WP.0.08 vs Replace

5.1 WP.0.07 Repair Location

This section shows the sample repair of window WP.0.08 located in the reception area of the Eastern Building. The location of this window is highlight in figure 49.



Figure 61: WP.0.08 Sample Repair location on Eastern Courtyard Elevation level 00 (Credit Bridge 2022)

5.2. Repair Work undertaken

The section below shows the comparison of an approved repair on window WP.0.08 reviewed by the Conservation officer on Wednesday 14th September 2022, against a window that is beyond repair.

WP.0.08 has been first cut in the rotten areas and the old timber around has been shaped so the space is left as regular as possible. A regular shape is created to allow the new timber to fit the hole as close to the original frame.

The new pieces are drilled, with screws to hold the pieces in place as the glue sets. It is important to note the screws are below the finished surface for aesthetics, with the excess glue carefully removed too.



Figure 62: WP.0.08 Repair (Credit CubicWorks Ltd. 2022)



Figure 63: WP.0.08 Repair (Credit CubicWorks Ltd. 2022)



Figure 64: WP.0.08 Repair (Credit CubicWorks Ltd. 2022)

5.3: WP.0.11 Replacement

After the survey undertaken by the specialist heritage contractor, window WP.0.11 is used as an example in the comparison of repair vs replace as benchmark for the replacement of the windows that require replacement.

The location of WP.0.11 is identified in figure 65 below in the highlighted box below, with figure 66 show a visual representation.



Figure 65: Location of WP.0.11 on Level 00 Courtyard Elevation (Credit Bridge 2021)



Figure 66: External view of WP.0.11 (Credit CubicWorks Ltd. 2022)

6.0 Princess Street Elevation

Section 6 looks at the window repairs and replacements on the Princess Street Elevation.

Figure 66 below shows the highlighted windows that have all been replaced as they were beyond repair.



Figure 67: Location of Windows replaced on the Princess Street Elevation (Credit Bridge Architects 2021)

6.1 Entrance Windows and Door

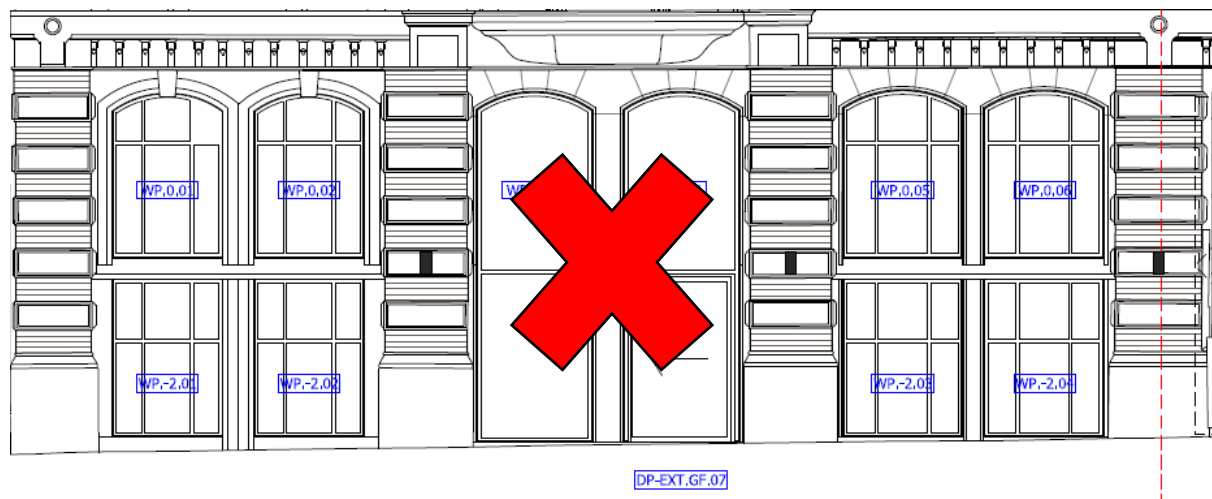


Figure 68: Close up of entrance windows and door (Credit Bridge Architects 2021)

As shown in the figures below taken in mid-2022 the condition of the were beyond repair and were required to be replaced making sure that the replacement windows were within the planning condition 3 set out by Manchester City Council:-

Condition 3 – New Windows

No development shall commence with regards to the following points unless and until final details (including where appropriate specification and method statement) of the following have been submitted to and approved in writing by the City Council as Local Planning Authority:... e) Full details and sections of all new windows and doors, including through heads, cills and reveals are provided in order to understand frame sizes and mouldings.

6.2 Replacement Methodology

It is important to note the Windows are of historical interest and have be made good with an accurate like for like replacement in line within the listed building conditions, carefully ensuring a match to the original item carried out by the chosen heritage contractor.

In this case the windows that are beyond repair are replica timber casement alternatives has been chosen true to the original heritage.

All windows are constructed using soft pinewood (Pine or Douglas fir) and are finished in an oil based paint. These are glazed with a 3-4 mm hand drawn cylinder or crown glass, and float glass.



Figure 69: Internal View of the reception windows (Credit CubicWorks 2022)



Figure 70: Internal View of the Reception Windows (Credit CubicWorks 2022)



Figure 71: External View of the Reception Windows (Credit Cubic Works 2023)



Figure 72: WP.0.06 Internal (Credit CubicWorks 2023)



Figure 73: WP.0.06 External (Credit CubicWorks 2023)



Figure 74: WP.0.05 Internal (Credit CubicWorks 2023)



Figure 75: WP.0.05 External (Credit CubicWorks 2023)



Figure 76: WP.0.02 Internal (Credit CubicWorks 2023)



Figure 77: WP.0.02 External (Credit CubicWorks 2023)



Figure 78: WP.0.01 Internal (Credit CubicWorks 2023)



Figure 79: WP.0.01 External (Credit CubicWorks 2023)



Figure 80 : WP.-2.03 External (Credit CubicWorks 2023)



Figure 81: WP.-2.03 External (Credit CubicWorks 2023)



Figure 82: WP.-2.04 External (Credit CubicWorks 2023)



Figure 83: WP.-2.04 Internal (Credit CubicWorks 2023)



Figure 84: WP.-2.01 External (Credit CubicWorks 2023)



Figure 85: WP.-2.01 Internal (Credit CubicWorks 2023)



Figure 86: External WP:-2.02 (Credit CubicWorks 2023)



Figure 87: Internal WP:-2.02 (Credit CubicWorks 2023)

7.0 Princess Street Elevation – Langley Building

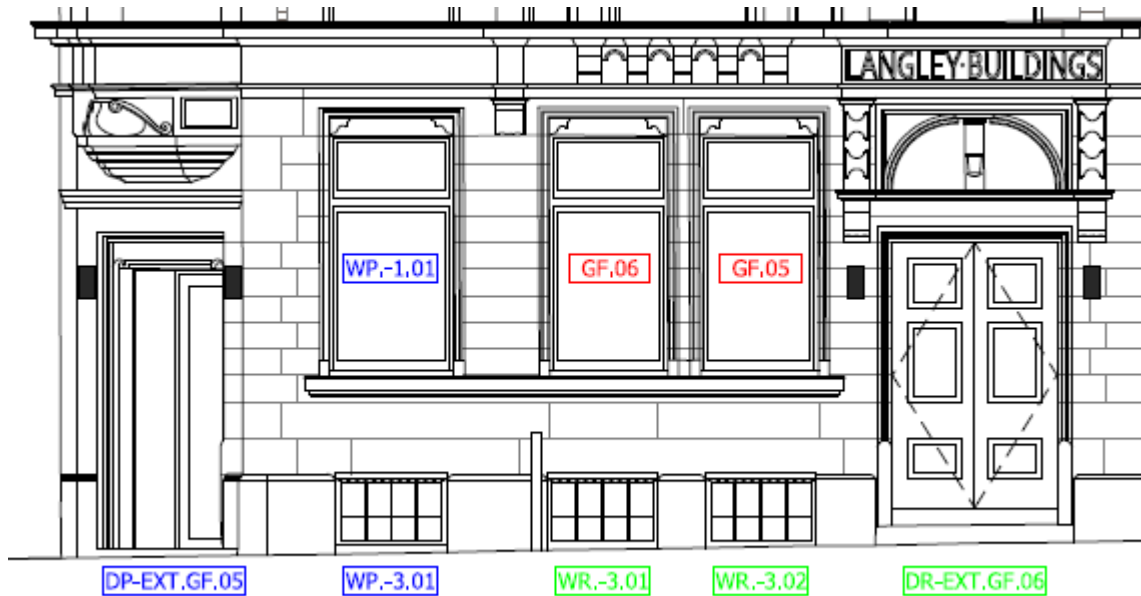


Figure 88: Princess Street Elevation – Langley building (Credit Bridge Architects 2021)

7.1 WP.-3.01 Replaced

This Window has been replaced with timber replica ensuring that the existing detail is kept to the original style. The old window has been removed and the frame has been drilled, with screws to hold the pieces in place as the glue sets. It is important to note the screws are below the finished surface for aesthetics, with the excess glue carefully removed too. Once this is done the paint can be painted.



Figure 89: WP-3.01 (Credit CubicWorks 2023)

7.2 WR.-3.01 Repair

This Window has been repaired as per the Original quadriga report this is a metal frame, this has been treat, prepped and painted. A final clean has been scheduled towards the end of the project.



Figure 90: WR.-3.01 (Credit CubicWorks 2023)

7.3 WR.-3.02 Repair

This Window has been repaired as per the Original quadriga report this is a metal frame, this has been treat, prepped and painted. A final clean has been scheduled towards the end of the project.



Figure 91: WR.-3.02 (Credit CubicWorks 2023)

7.4 WP.-1.01 Replace

This Window has been replaced with timber replica ensuring that the existing detail is kept to the original style. The old window has been removed and the frame has been drilled, with screws to hold the pieces in place as the glue sets. It is important to note the screws are below the finished surface for aesthetics, with the excess glue carefully removed too.

The window has been constructed using soft pinewood (Pine or Douglas fir) , finished in an oil based paint and glazed with a 3-4 mm hand drawn cylinder or crown glass, and float glass.



Figure 92: WP.-1.01 (Credit CubicWorks 2023)

7.5 GF.06 and GF.05 Repair

GF.06 & GF.05 has first been cut in rotten areas and the old timber around has been shaped so the space is left as regular as possible.

A regular shape has been created to allow the new timber to fit the hole as close to the original frame.

The new pieces have been are drilled, with screws to hold the pieces in place as the glue sets. It is important to note the screws are below the finished surface for aesthetics, with the excess glue carefully removed too.

After this has been completed a oil based paint has been applied.



Figure 93: GF.06 (Credit CubicWorks 2023)



Figure 94: GF.05 (Credit CubicWorks 2023)

8.0 Harter Street Elevation – Basement Windows

This section of the report highlights the condition of the basement windows on the Harter Street elevation in late 2021 and the work undertaken to restore them to their former glory.

The figure below show the Harter Street elevation drawing produced by Bridge Architects in 2021.



Figure 95: Harter Street Elevation (Credit CubicWorks 2023)



Figure 96: Harter Street Basement Windows (Credit CubicWorks 2023)



Figure 97: W1-10 & W1-11 (Credit Bridge 2021)

Figure 98: W1-08 & W1-09 (Credit Bridge 2021)



Figure 99: W-1 06 & W1-07 (Credit Bridge 2021)



Figure 100: W-1 05 (Credit Bridge 2021)

8.2 Harter Street Basement Windows Update 2023

The Figures below show the condition of the Harter Street basement windows now that they have been repaired and replaced.



Figure 101: W-1 05 (Credit CubicWorks 2023)



Figure 102: W-1 06 & W1-07 (Credit CubicWorks 2023)



Figure 103: W1-08 & W1-09 (Credit CubicWorks 2023)



Figure 104: W1-10 & W1-11 (Credit CubicWorks 2023)



Figure 105: W1-12 & W1-13 (Credit CubicWorks 2023)



Figure 106: W1-14 & W1-15 (Credit CubicWorks 2023)



Figure 107: W1-16 & W1-17 (Credit CubicWorks 2023)