

Reuben College – Works Methodologies

Task Sheet MS06 – Jackson Wing, Sample Wall and Ceiling Plaster removal as part of Asbestos Abatement Works. February 2021.



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1.0 Introduction

Morgan Sindall have been appointed under a Pre-Construction Services Agreement (PCSA) to provide construction and management services in support of the proposed new Reuben College which is being developed in the former Radcliffe Science Library and Inorganic Chemistry buildings that are situated on Parks Road in Oxford.

The services include investigation works to understand the structure of the building, identify potentially harmful materials, enabling works to prepare the buildings for the main contract works and removal of high-risk materials from the buildings (asbestos and mercury contamination).

Heritage Project Management are working with Morgan Sindall as a heritage consultancy to assist with the development of works proposals and ensuring compliance with planning and listed building consent requirements.

Applications for Town Planning (App Ref. 20/00942/FUL) and Listed Building Consent (App Ref. 20/00943/LBC) have been submitted to Oxford City Council and have been approved subject to conditions.

However, since this time, additional and extensive areas of asbestos containing materials (ACM's) have been identified within the wall and ceiling plaster construction of the Jackson Wing and trial works are required to determine the most appropriate means of removing the ACM's from the historic interiors of the building.

The trial works areas have been chosen to best represent the typical areas of the Jackson Wing and cover the range of materials that are present in the building. They are considered to be the minimal necessary to obtain a full understanding of the removal techniques being employed and the health and safety measures that need to be instigated to comply with asbestos regulations.

This methodology has been prepared to support a Listed Building Consent application covering the trial works on site. This methodology covers the removal of the wall and ceiling plaster from the identified trial areas within the Jackson Wing that have been identified as containing asbestos materials.

1.1 Methodology Standardisation

The individual tasks are to be carefully detailed using a standard **task sheet** template. This Task Specific Method Statement has been prepared following the standard template.

The proposed method statements to be prepared for the works on site are identified on the following schedule:

Title	Ref:
Architectural Investigations	MS01
Jackson Wing – Bookcase Modifications	MS02
Worthington Wing – Timber Panel Removal for Asbestos Abatement Works	MS03
Removal of infill material to the floors of the former Inorganic Chemistry buildings.	MS04
Wall and ceiling plaster removal as part of asbestos abatement works. (MVP)	MS05MVP
Jackson Wing - Sample Wall and Ceiling Plaster Removal as part of asbestos abatement work.	MS06



Previously issued



This submission

Task Sheets should always be read in conjunction with H&S Method Statement for the works.

1.2 Background Information

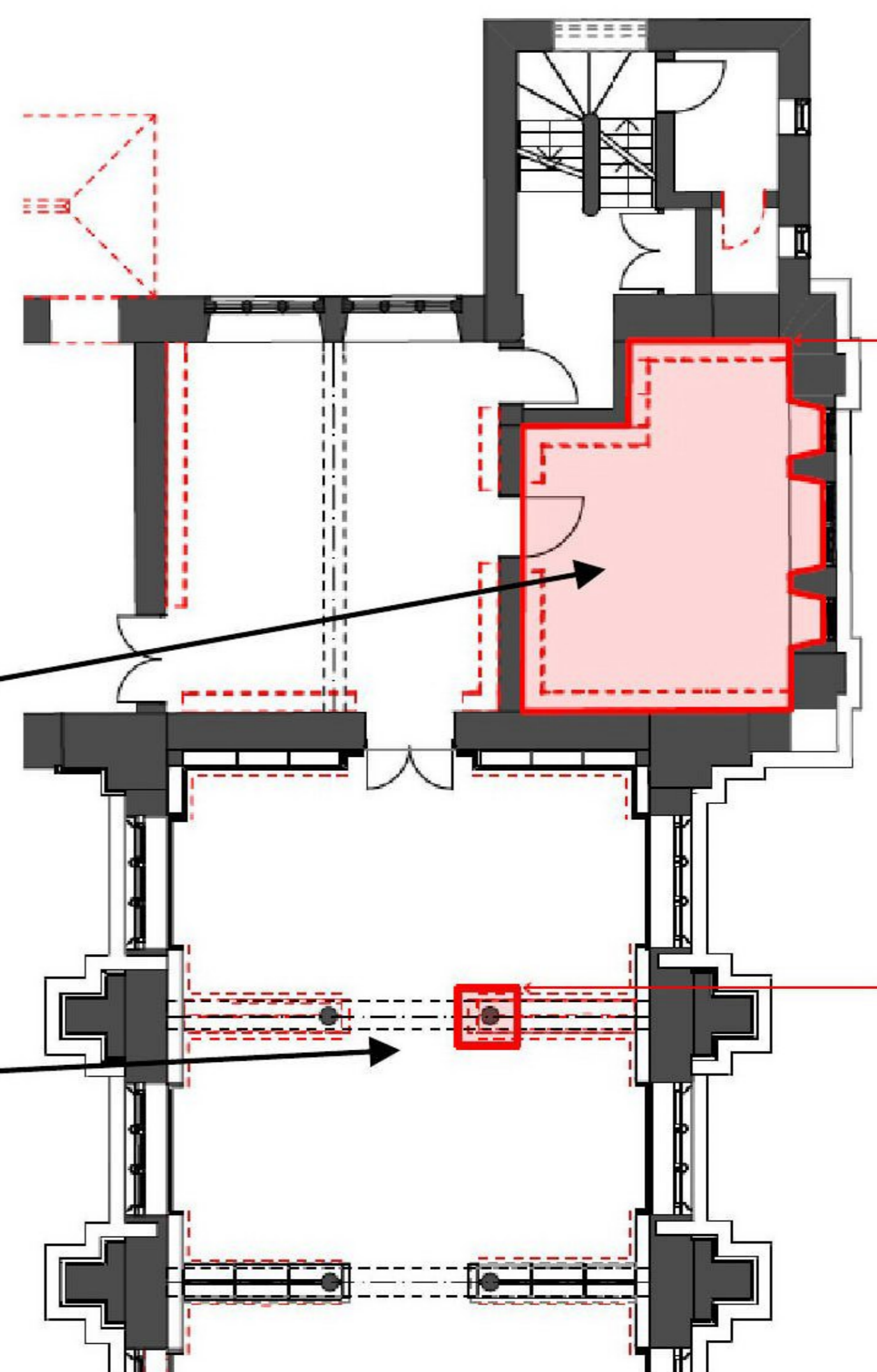
Intrusive asbestos surveys have been undertaken by Environmental Essentials that have identified a number of areas within the Jackson Wing where the plaster contains asbestos materials. The occurrence of asbestos within the both the ceiling and wall plaster is unusual within a building of this age. However, it may have formed part of an early fire protection system intended to safeguard the steelwork of the library floor construction. The presence of ACM's within the plaster material is a serious and ongoing management risk to the building and the trial abatement works will assist the project team in determining the most appropriate techniques that can remove the ACM's without risk to the heritage fabric.

Identified Trial Areas

Two areas have been identified on the first floor of the Jackson Wing that include all of the differing construction details that need to be reviewed as part of the asbestos abatement works.

Area 1 – Office Area (JF-09)

Area 2 – Column and Ceiling above bookcases. (JF-08)



Area 1

Room JF-09 is situated on the first floor of the Jackson Wing.

It is approx. 26.5m² in plan area.



Many of the wall areas are covered by bookcases which are not original or of historic value.



Details of Construction:

Ceiling – Lime plaster (containing ACM's) directly fixed to clay pot ceiling of the filler joist floor construction. Coving to perimeter walls.

Walls – Lime plaster (containing ACM's) directly fixed to random limestone walling.

Floor – Carpet fixed onto 3mm plywood covering wooden penny jointed flooring fixed on battens over existing filler joist flooring. Electrical services are routed in the floor void.

Joinery – Timber bookcases fixed to walls (original plasterwork behind).

Scope of Works

The wall and ceiling plaster will be removed in its entirety – the works will also include cleaning of areas such as the floor voids to remove all traces of asbestos materials.

Area 2

The works within JF-08 are limited to those around the circular column and down stand beam above.

See the area as noted.



These works however will require the removal of the timber bookcases to enable the full removal of asbestos containing materials.

Details of Construction:

Ceiling – Lime plaster (containing ACM's) directly fixed to clay pot ceiling of the filler joist floor construction. Plaster coving surrounding the down stand beam and plaster coated cast iron column.

Walls – Lime plaster (containing ACM's) directly fixed to random limestone walling. No plaster directly behind the bookcase construction.

Floor – Carpet fixed onto 3mm plywood covering wooden penny jointed flooring fixed on battens over existing filler joist flooring. Electrical services are routed in the floor void.

Joinery – Timber bookcases fixed to walls and around column that are original to the library construction. (Removal agreed as part of existing LBC Approvals).

Scope of Works

Bookcases to be removed – for storage and possible reuse.

The wall and ceiling plaster will be removed for an areas of 1m² around the head of the cast iron column. Plaster will also be removed around the cast iron column.

Void areas in the surrounding areas will be cleaned of asbestos containing material.

2.0 Overview of the Methodology

MS06 notes the proposed methodology to protect the heritage features and remove the plaster material from the walls and ceiling areas.

All ACM containing material will be removed by a Licenced Asbestos Removal Contractor (LARC) and disposed from site as hazardous waste.

Enclosures will be erected to isolate the work areas from other areas of the building. These enclosures will be sealed against wall positions with adhesive tape and no fixings will be made into existing walls.

Who will undertake the works?

The works will be undertaken by Asbestech and Heritage Project Contracts Ltd as specialist contractors working under Morgan Sindall. Both of these companies have worked previously on the Reuben College project and have a full understanding of the heritage constraints of the project.

Who will record the works as they progress?

The works area will be fully recorded in advance of works to record the plaster detailing that will be removed. This should include:

- Squeezes of the moulded elements ie: cornice details to the head of the column and overall details of the plaster cladding to the cast iron column itself.

Who is responsible for Quality in this operation?

Richard Baister (HPM) / Richard Ramsdale (Morgan Sindall) are responsible for the quality aspects of this operation.

Are the works being overseen by the Conservation Team?

The works will be overseen by Richard Baister ACR, and Richard Ramsdale to ensure that the works are undertaken in line with the agreed methodology and to ensure that the risk to the heritage fabric is minimised. Elements that are removed and not re-incorporated within the works will be disposed following an agreed disposal strategy.

All works will be fully documented and copies of the reports made available to the Conservation Team where required.

2.1 Contents of the Task Sheet

- Recording and sampling
- Proposed works methodology.
- Employee Duties
- Do's and Don'ts
- Supporting Information / Photographs

2.2 Recording and sampling

A full record is required of the plaster details prior to the commencement of the removal works. The following proposals are recommended:

1. A photographic record (or series of 360 degree photos) of the floor areas to include high resolution details of the plaster features.
2. A measured record of elements such as the cornice mouldings.
3. Squeezes of plaster features such as the cornice mouldings.

The record should be made available to the project team to enable replication of the existing plaster detailing and where necessary supplement the Historic Environment Record.

Sampling should be undertaken to confirm the material composition of each of the plaster types being removed. Whilst the majority of the areas retain their original lime mortar plaster there are later areas where gypsum may be present.

2.3 Proposed Methodology

Protection

For each area a protection strategy will be required to ensure that the heritage features are best protected for the duration of the removal works. This is particularly important for features such as the adjacent bookcases within the reading room, stone window surround details and historic doors.

Task Methodology

Area 1

Preparation

The door to room JF-08 will be removed and carefully stored out of the working area.

The carpet tiles and plywood sheeting covering the flooring will be removed in advance of the removal works. These works do not disturb the existing plaster.

An airtight enclosure will be erected as per the Asbestech details to isolate the whole working area (ie areas 1 and 2). This will include negative pressure enclosures and airlocks for the transit of men and materials.

The timber elements including bookcases, architraves, skirtings and timber flooring will be carefully removed from the area. Each of these elements will be uniquely identified and cleaned of ACM's in advance of leaving the enclosure. A three stage air lock system will be employed to ensure that any

fire material can be removed and items inspected before leaving the enclosure.

Electrical services fixed to walls will be removed to allow full access to the wall areas behind.

Pipework for radiators will be inspected and where necessary removed to allow the plaster removal works to be completed.

Walls

The plaster will be removed from the walls using wide bladed percussion hammers. Working from an open edge the plaster will be eased from the masonry by separating the plaster at its interface with the wall itself. This will minimise damage to the masonry.

All plaster material will be double bagged and removed from the work area.

The masonry will then be scraped by hand to remove any remains of plaster material before being wire brushed to remove any traces of ACM fibres from the wall.

Protection will be required to heritage features such as the stone window surrounds in advance of the removal works. Plaster to be removed in delicate areas such as these should be undertaken by hand.

Ceilings

The ceilings are constructed of a clay pot filler joist floor as per the trial investigations taken on the ground floor level of the Jackson Wing.

Plaster from the ceiling will be carefully removed using wide bladed percussion hammers. Working from an open edge the plaster will be eased from the masonry by separating the plaster at its interface with the ceiling itself. This will minimise damage to the clay pots.

All plaster material will be double bagged and removed from the work area.

The ceiling will then be scraped by hand to remove any remains of plaster material before being wire brushed to remove any traces of ACM fibres from the clay pots and mortar infill.

Any void area where fibres may be retained will be encapsulated with paintwork / fire rated mastic as per the sample area.

Floor Void

The concrete floor will be fully cleaned and inspected for ACM's. Where any materials are found then these will be carefully scraped and cleaned from the surface of the floor.

Any electrical services and containment running in the floor void will also be inspected and cleaned where required.

Prior to removal of the enclosure the area will be fully inspected and certified prior to handover.

Area 2

Preparation

The door to room JF-08 will be removed and carefully stored out of the working area.

The carpet tiles and plywood sheeting covering the flooring will be removed in advance of the removal works. These works do not disturb the existing plaster.

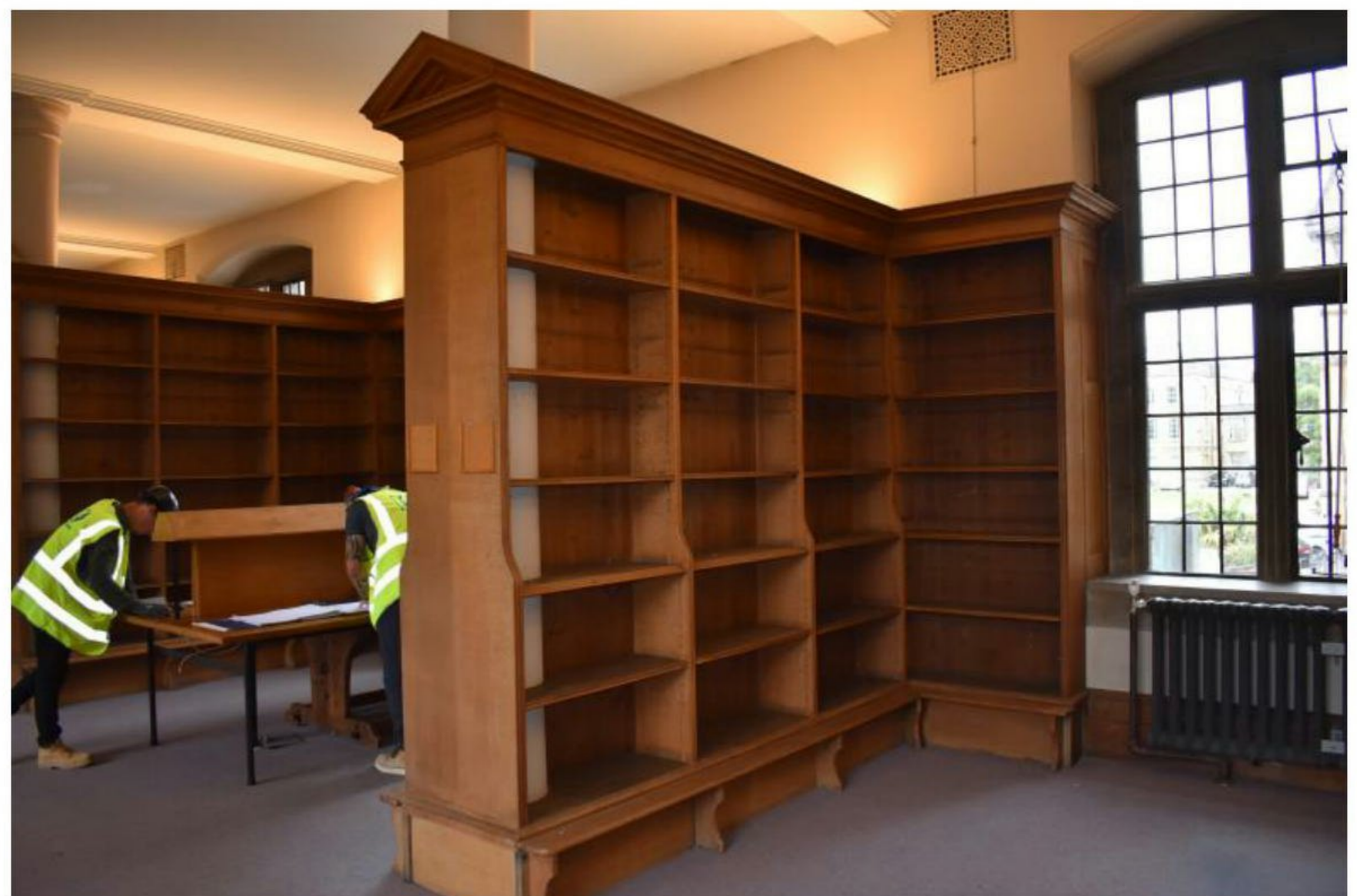
An airtight enclosure will be erected as per the Asbestech details to isolate the whole working area (ie areas 1 and 2). This will include negative pressure enclosures and airlocks for the transit of men and materials.

Bookcase Removal (As noted in MS02 – Jackson Wing Bookcase Modifications)

Existing Condition

The bookcases are of oak construction and formed as a projecting back to back unit which spans between the wall mounted bookcase elements and the structural support column to the floor above.

Although believed to have originated from the former museum library the bookcases have been remodelled well to fit within the existing Jackson wing.



The bookcases are generally in good condition although areas of damage are visible where modifications have been made to the bookcases over time. Investigations have been undertaken on site to understand the construction of the bookcase and how they could be dismantled to enable modification as required for the proposed scheme.

Plinth Detail

The ends of the plinth are removed by removing the angles protection brackets fitted to the corners of the plinth and then releasing the oak faced plywood panel to the base. (This fits in a rebate under the timber moulded edge at the base of the bookcase).



With the panel removed you have access to the void space under the bookcase. Note plaster column penetrates through the base of the bookcase and floor. Plaster casing which contains ACM's has been damaged to allow installation of lighting to the top of each bookcase.



Slate bed to bookcase

Void space under bookcases (photo of level 8 shown for clarity however level 6 similar with column which obscures view).

Slate bed to bookcases.

Iron support straps

Framing for plinth / step.



Foot of ironwork support strap – these are screw fixed to the floor boards.



Plinth step is pinned to the plinth panel and can be removed by easing away from the bookcase as a single item. Each of the support legs is also pinned to the step itself. With the step removed it is possible to remove the remainder of the plinth panels which are pinned to the support framework. (Note these panels are faced plywood 4mm thick and require care to remove without damage.).



End Pediment Details

This is formed of 4 no. Oak components all jointed together with wood screws. The top covers are first removed from each side to give access to the 4 no. wood screws that secure the cornice to the top of the bookcase.



Lighting fitted to the top of each bookcase. A section of the top covers have been removed and lighting supported on timber battens.

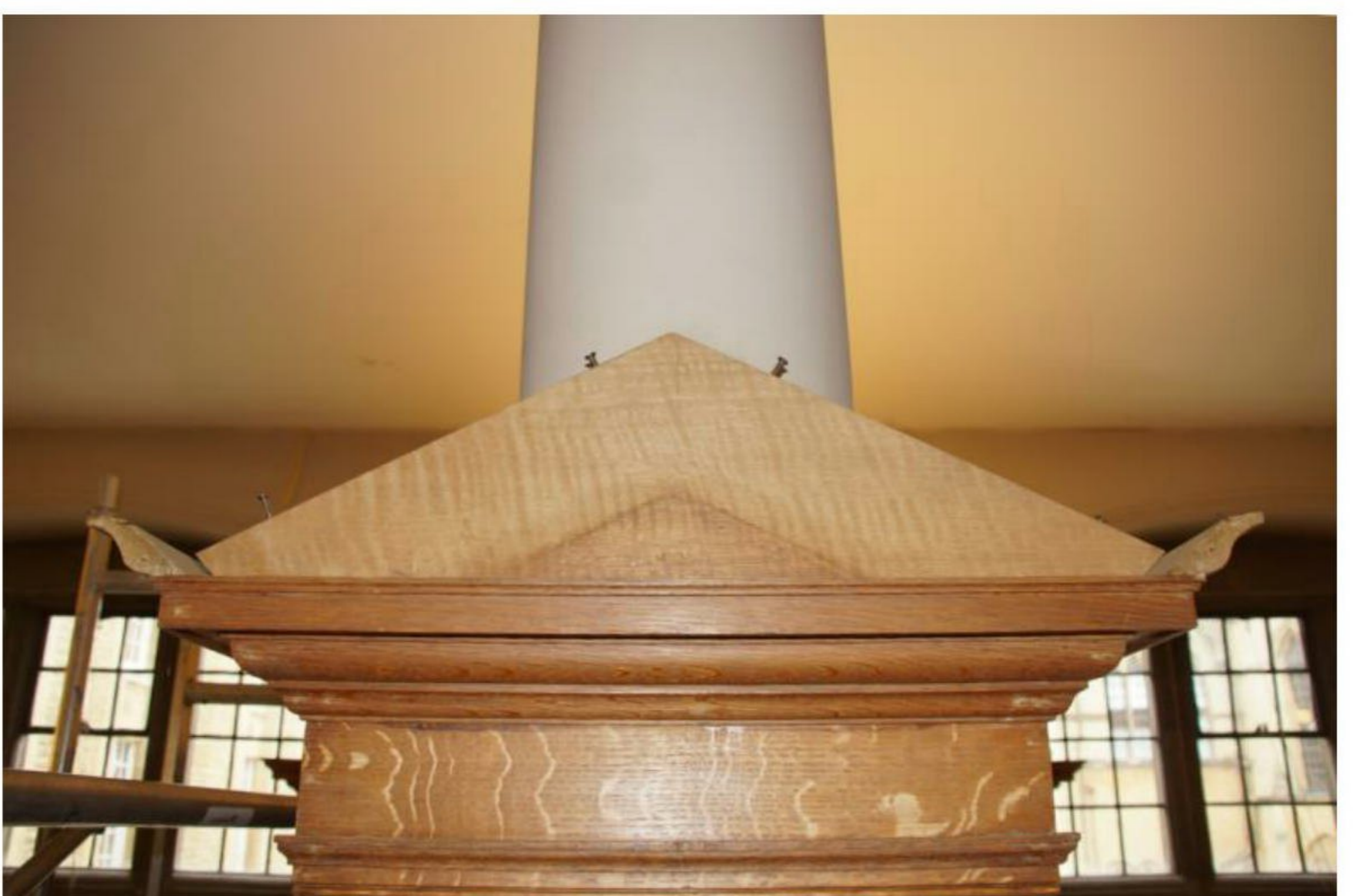
The covers require removal the coving support framework beneath.



With the covers removed it is possible to the wooden coving to the pediment end and sides of the bookcase. The bottom edge of these slot into a groove in the bookcase top moulding piece. It is both nailed and glued in place.



Cove elements removed from the pediment.



Once the coving has been removed the top moulding can be removed. This is secured by nails into the bookcase end and partition edges.

The end of the bookcase can then be removed. The top panel slots into the inner edge of the end panel and is nailed through from the outer side. The bottom edge of the end panel slots into the bookcase base panel and is pinned into place.



Window Reveal Panel

Reveal panel removed for investigation. Panel is rebated into the rear of the bookcases and pinned to wooden blocks which are built into the masonry.



Coving removed from window to external corner of bookcase (pinned and glued at mitre) which allows release of the reveal panel from the grounds and rotated from the bookcase rebate.

Note: plaster does not extend behind the bookcases.
Grounds fitted as plaster guide and fixing method for joinery.



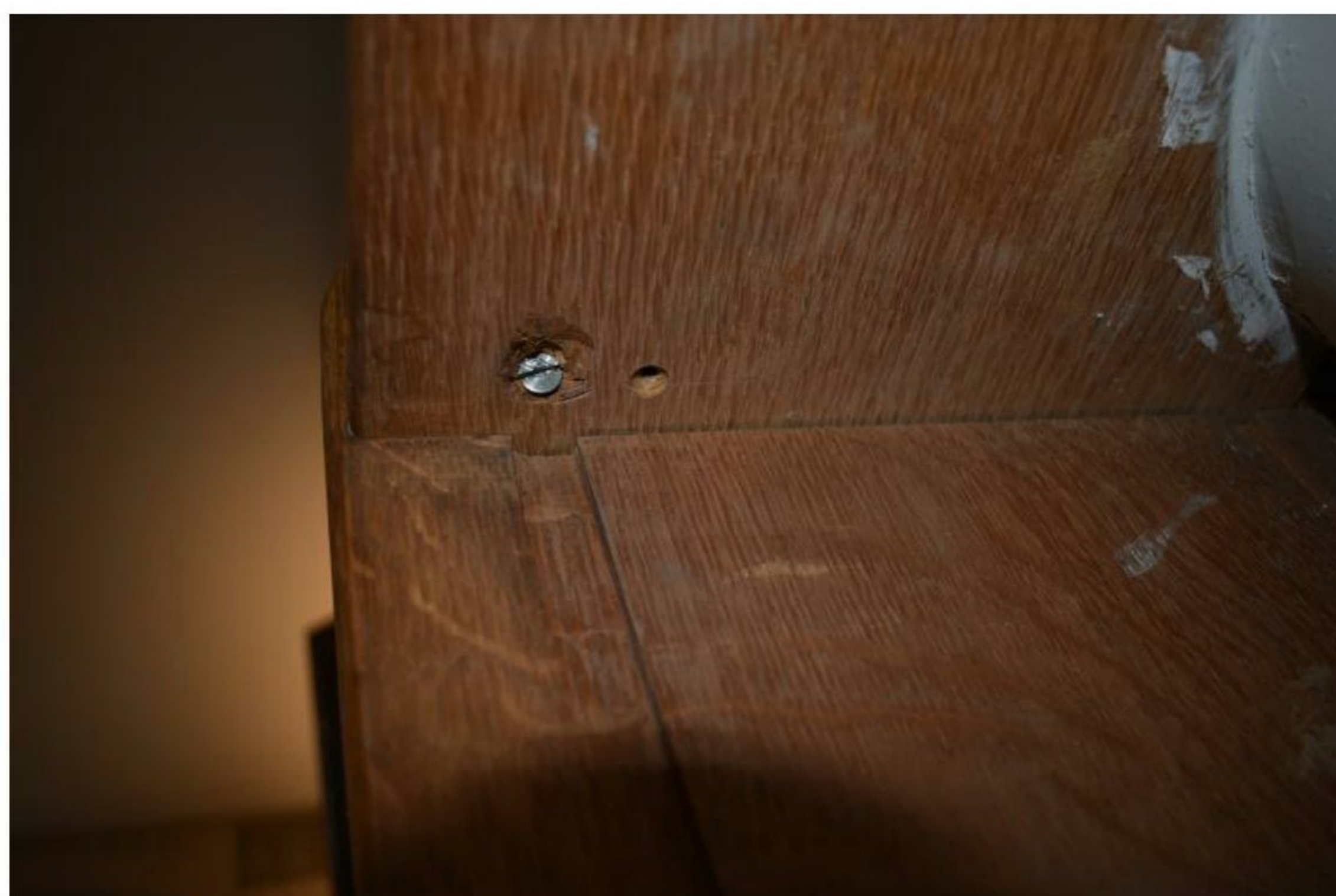
Shelving Removal

The majority of the shelving is adjustable and can easily be removed. However, the second shelf from the base is structural and is screw fixed to the end and intermediate panels.

Fixed shelf unit



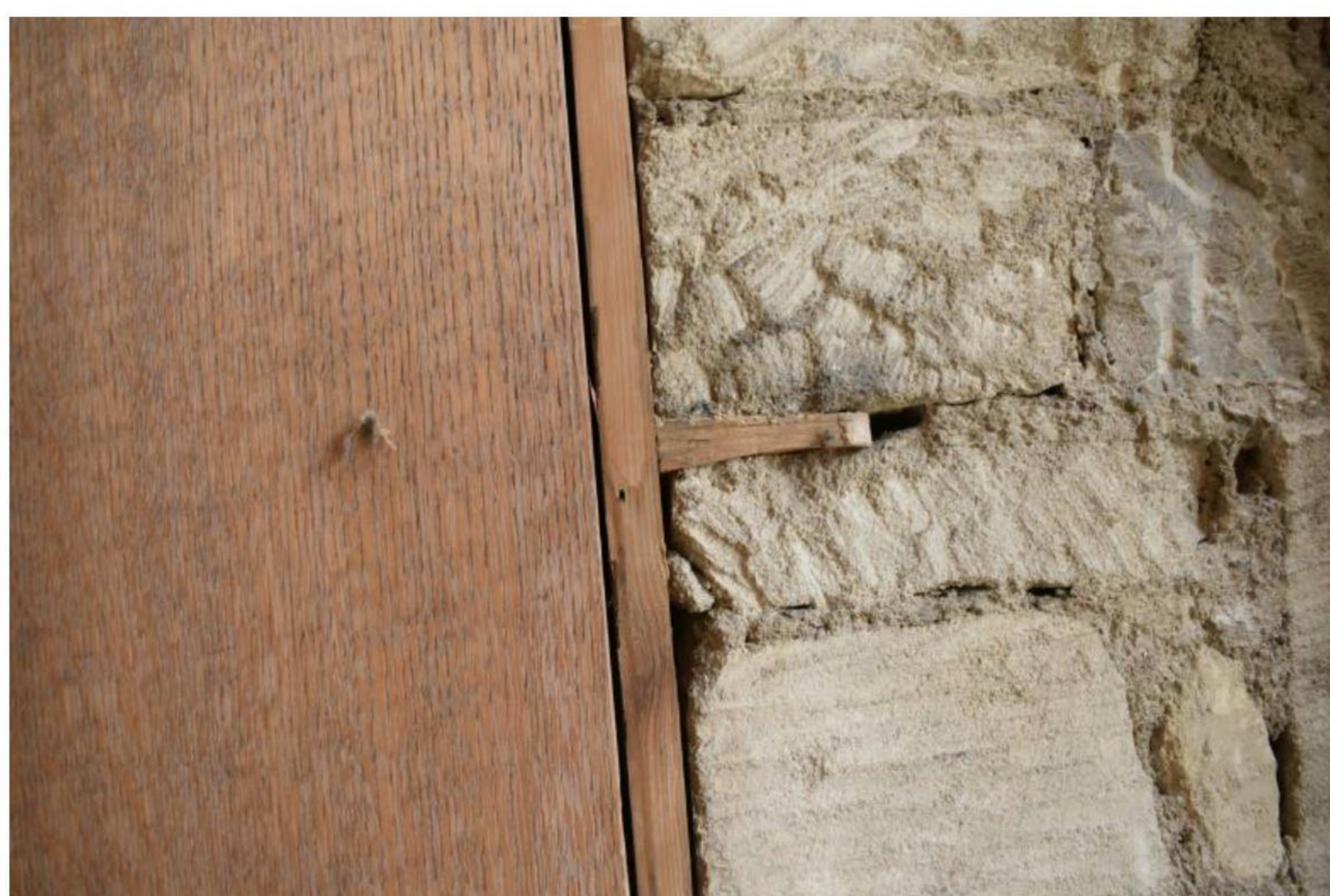
Screws connecting the fixed shelf unit to the end and intermediate panels.



Casing Fixings

The wall mounted bookcase units are fixed to timber grounds which are themselves fixed directly to the masonry wall with timber blocks.

An additional batten at the head of the bookcases secures these in position.



The wall mounted bookcases have been fixed in position prior to the projecting element which has a rebated joint into the end casing upright.

End of RHS bookcase.

End of projecting bookcase.



View into void area between the 3No bookcase elements.

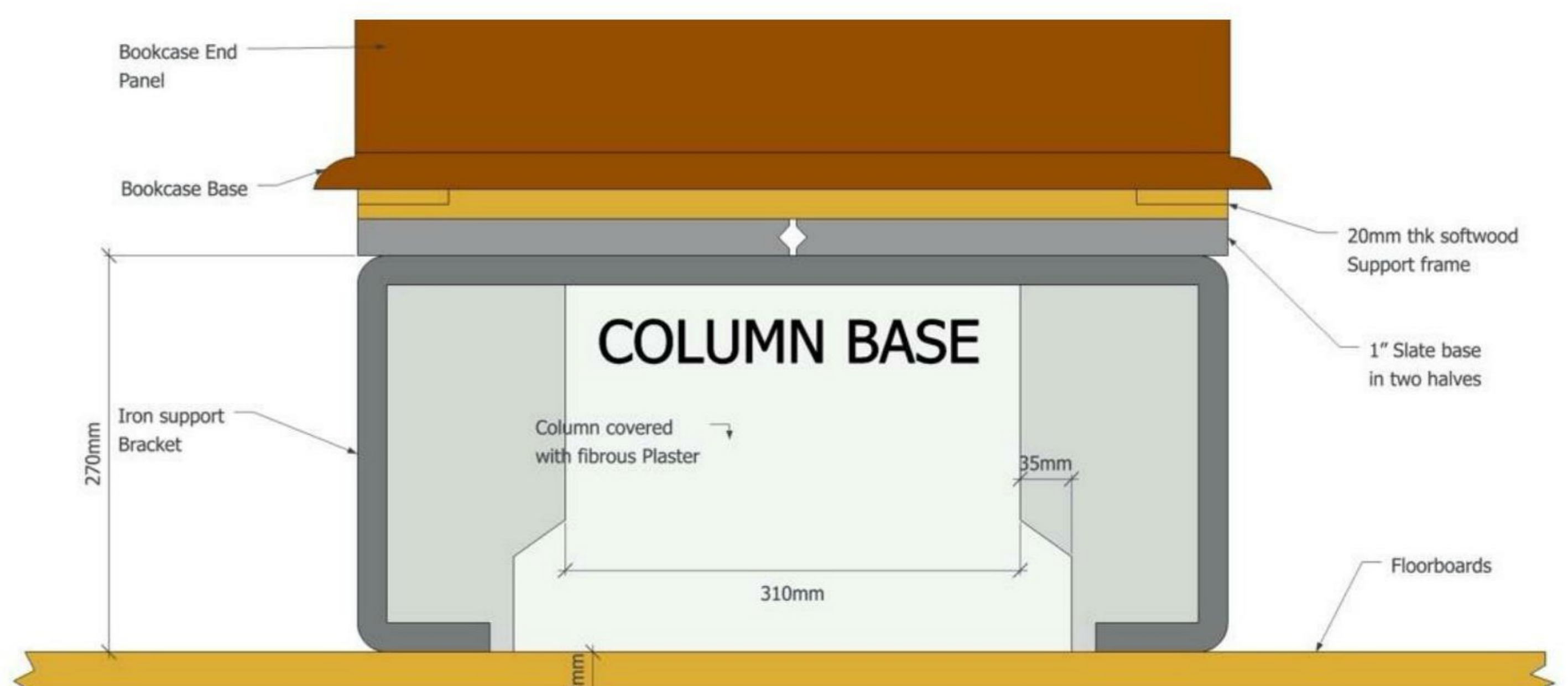
Wall is not finished – grounds fixed directly to stonework.

End of projecting bookcase

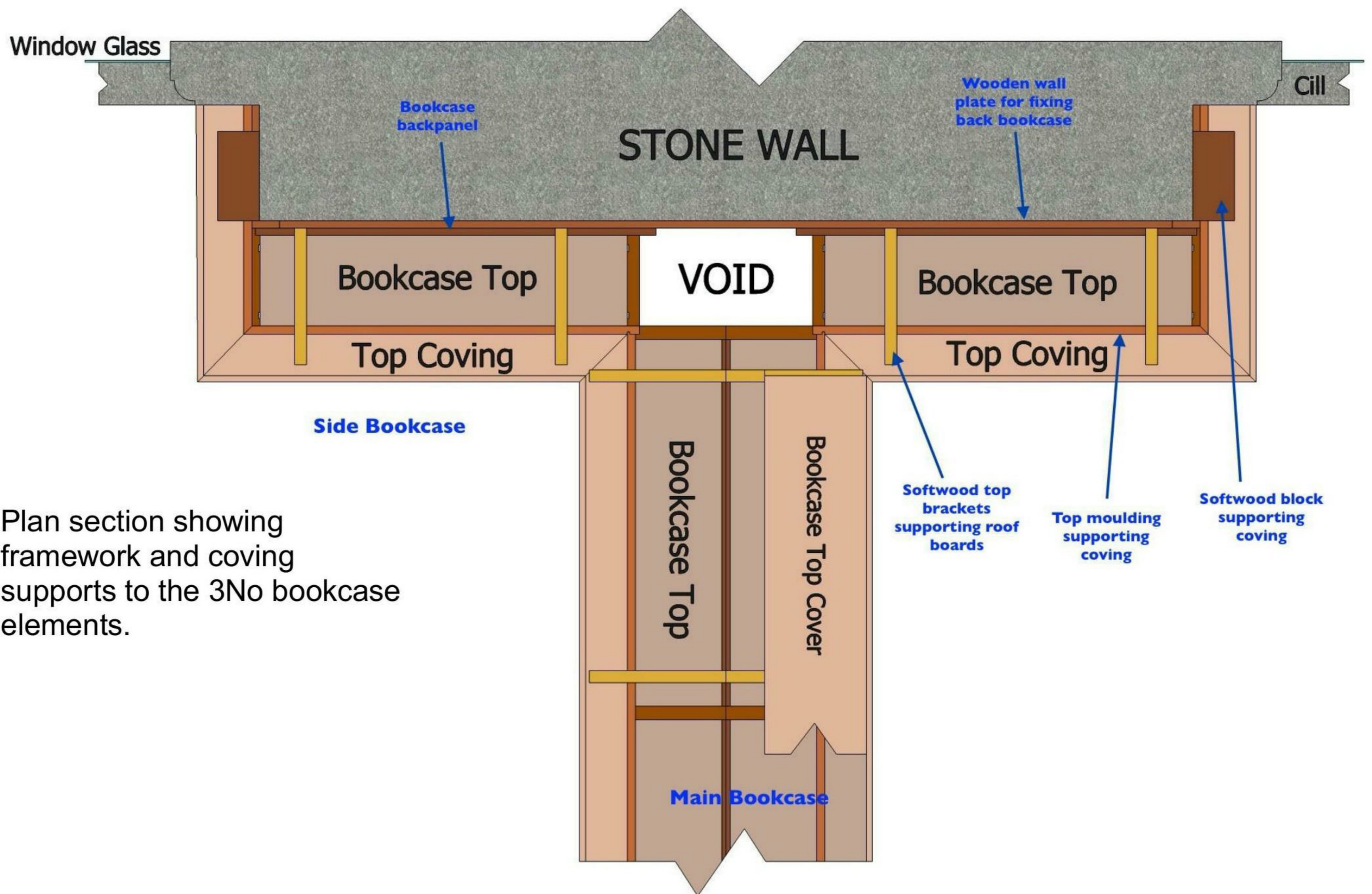
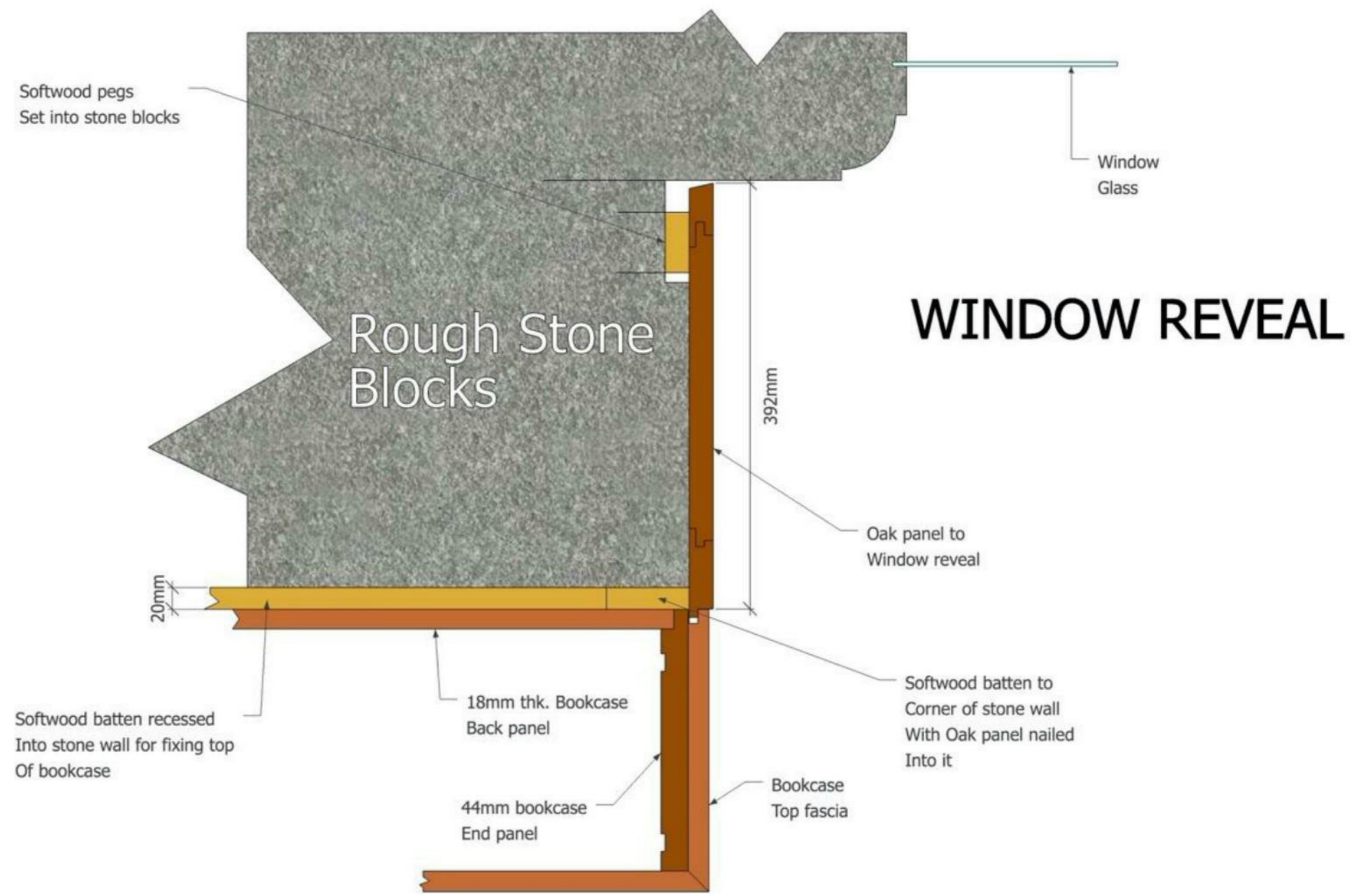
RHS bookcase end



Section through base of the bookcases showing make-up of the supports.



Plan section showing framing for reveal panels and rear of bookcases.



Plan section showing framework and coving supports to the 3No bookcase elements.

Proposed bookcase dismantling sequence.

1. Remove loose shelving (record positions of each and uniquely identify).
2. Remove plinth end panel, plinth step and plinth boarding.
3. Remove top covers, isolate electrics and remove lighting units.
4. Remove coving support framework.
5. Remove pediment mouldings.
6. Remove coving (to all 4 sides).
7. Remove window reveal panels.
8. Working from the top down remove fixings between fixed horizontal elements and vertical bookcase ends – separate elements around the column to release the end panel.
9. Release the projecting bookcase element from the fixed wall mounted bookcases and remove.
10. Remove the slate base of the book cases together with the iron support frames fixed to the floor.

Following removal of the bookcases and electrical services fixed to walls will be removed to allow full access to the wall areas behind.

Pipework for radiators will be inspected and where necessary removed to allow the plaster removal works to be completed.

Floor boards fitted beneath the bookcases will be uniquely identified and removed from the floor to allow full cleaning of the floor void.

Plaster Removal - Walls

The plaster will be removed from the walls using wide bladed percussion hammers. Working from an open edge the plaster will be eased from the masonry by separating the plaster at its interface with the wall itself. This will minimise damage to the masonry.

All plaster material will be double bagged and removed from the work area.

The masonry will then be scraped by hand to remove any remains of plaster material before being wire brushed to remove any traces of ACM fibres from the wall.

Protection will be required to heritage features such as the stone window surrounds in advance of the removal works. Plaster to be removed in delicate areas such as these should be undertaken by hand.

Plaster Removal - Ceilings

The ceilings are constructed of a clay pot filler joist floor as per the trial investigations taken on the ground floor level of the Jackson Wing.

Plaster from the ceiling will be carefully removed using wide bladed percussion hammers. Working from an open edge the plaster will be eased from the masonry by separating the plaster at its interface with the ceiling itself. This will minimise damage to the clay pots.

All plaster material will be double bagged and removed from the work area.

The ceiling will then be scraped by hand to remove any remains of plaster material before being wire brushed to remove any traces of ACM fibres from the clay pots and mortar infill.

Any void area where fibres may be retained will be encapsulated with paintwork / fire rated mastic as per the sample area.

Cast Iron Columns

The methodology for the removal of ACM's will follow that utilised in the trail area. The plaster cladding will be injected (where possible) to consolidate any loose fibres and the material removed from the face of the column. This will be double bagged and removed from site.

The cast iron column will then be cleaned by hand with wire brushed to remove any traces of asbestos fibres.

Floor Void

The concrete floor will be fully cleaned and inspected for ACM's. Where any materials are found then these will be carefully scraped and cleaned from the surface of the floor.

Any electrical services and containment running in the floor void will also be inspected and cleaned where required.

Prior to removal of the enclosure the area will be fully inspected and certified prior to handover.

Plaster Reinstatement

Replacement plaster work for the walls will be a suitable NHL Lime Plaster to ensure the continued breathability of the external walls. The ceiling of the Jackson Wing will be in new gypsum board material suspended from the clay pot floor. All the FJMT details.

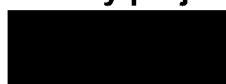
2.3 Archaeology

This operation does not require any archaeological input. The works will be recorded as they are progressed.

2.4 Contact details for key project staff:

Richard Baister

Richard Ramsdale



Heritage Project Management

Morgan Sindall Construction

3.0 Protection Arrangements.

Prior to undertaking any works the work area will be reviewed by Asbestech and HPC to confirm that the areas have not further deteriorated and that the works can take place.

Protection where required will be provided to the work area, access and egress routes in and out of the work area to prevent any possible accidental damage to the existing fixtures fittings and finishes.

All removed hazardous waste will be double bagged and transported in approved waste containers.

4.0 Programme

Details of the programme are to be agreed upon appointment.

5.0 Competency of Staff

All operatives working on the project will be required to attend a site induction with the Principal Contractor before starting work. All operatives will be required to hold a valid current CSCS card and competence cards suitable to their trade.

In addition, all staff will have attended an asbestos identification training session.

6.0 Employee Duties

Employees and sub-contractors must ensure that the works are carried out in line with the proposals noted in this Task Sheet. It is a criminal offence under the Planning Acts if any person executes *“any work for the demolition of a listed building or for its alteration or extension in any manner which would affect its character as a building of special architectural or historic interest unless the works are authorised”*. The current penalty for conviction in a magistrates’ court is a fine of up to £20,000 and/or a prison sentence of up to six months, and on conviction in the Crown Court, an unlimited fine and/or a prison sentence of up to two years. Consequently, it is essential to ensure that the proposed works are appropriately authorised and follow the agreed methodologies.

7.0 Technical Compliance

7.1 Specification Requirements

The works shall be carried out to the following Technical Compliance

- Asbestos and hazardous material removal in line with statutory regulations and industry best practice.
- Preparation and re-instatement of material to be undertaken to comply with Manufacturers Specifications.

7.2 Plant & Equipment

All tools to be tethered – to MS works procedures.
 Power tools – to Asbestech works procedures

8.0 Management of Heritage Risks

The following heritage risks have been identified for this activity.

Ref	Heritage Risks	Severity and Mitigation	
1	Possible damage to the masonry behind the plaster.	Low	Plaster to be carefully removed – working areas to be minimised. Method Statement to be followed. Monitoring of removals process required throughout.
2	Possible damage to the existing building fabric during the works.	Low	Ensure protection is fitted to door entry positions etc where heritage is at risk.
3	Possible damage to stonework details.	Low	Additional protection to be fitted. Follow the agreed methodologies.
4	Possible loss of heritage timberwork to be reinstated.	Low	All removed elements to be uniquely identified and recorded prior to removal. All materials to be stored on site.

The overall Heritage Risk Rating of this operation is : **Medium / Low**

9.0 Supervision

Supervision on site will be provided by Asbestech and MS.

All specialist contractors will also provide supervisors for each of their teams.

10.0 Monitoring of Work

10.1 Inspection and Test Plan

To be developed with MS – regular reviews are anticipated which will ensure that the required quality standards are adhered to.

10.2 Movement / Vibration Monitoring

Monitoring of the existing building is not deemed necessary.

11.0 Environmental

All operatives will be required to wear a minimum of 5 point Personnel Protective Equipment (PPE). Hard Hat, Hi-Viz, Gloves, Safety boots and Glasses. Additional PPE, i.e. coveralls etc will be highlighted in the Specialist Sub-Contractors Method Statements.

12.0 Dust and asbestos

The works include removal of plaster material containing ACM's. Dust and fibre escape therefore needs to be controlled as part of the operation. All works to be undertaken under Asbestos Regulations.

13.0 Temperature & Humidity

The works will be undertaken internally within the building. Plaster re-instatement works will only be undertaken when the temperature is above 5 degrees C.

14.0 Approval, Review & Briefing

A Health & Safety method statement for this task will be developed in due course.

Copies of this Task Sheet together will be issued to the client and planning authority for information and comment prior to the execution of works.

All operatives working with the method statement will be fully briefed on the method statement and will sign a briefing sheet to confirm their understanding.

Daily Activity Briefings (Dab's) will be issued to the operatives to identify any changes from the previous day and health and safety issues or any changes to the heritage requiring consideration.

15.0 Do's and Don'ts

Do – plan the works in advance including reviewed the work site in advance of works to understand limitations and requirements of the works.

Do – provide protection to the existing heritage fabric in advance of commencing works.

Do – undertake to works in a logical manner following the description in the Task Sheet.

Do – record before, during and after the works are completed.

Do – report any damages to the original fabric as a result of the works.

Do not – store or lean materials against the heritage fabric of the building.

Do not – disturb any more material than is necessary to execute the works.

16.0 Supporting Information / Photographs

1. EEL - Asbestos Abatement Specification V3