DURHAM CATHEDRAL OPEN TREASURE PROJECT

EXHIBITION AND DISPLAY IN COMPLEX MEDIAEVAL SPACES. ENVIRONMENTAL AND CONSERVATION STRATEGIES

CHRISTOPHER COTTON Cathedral Architect, DURHAM

PURCELL


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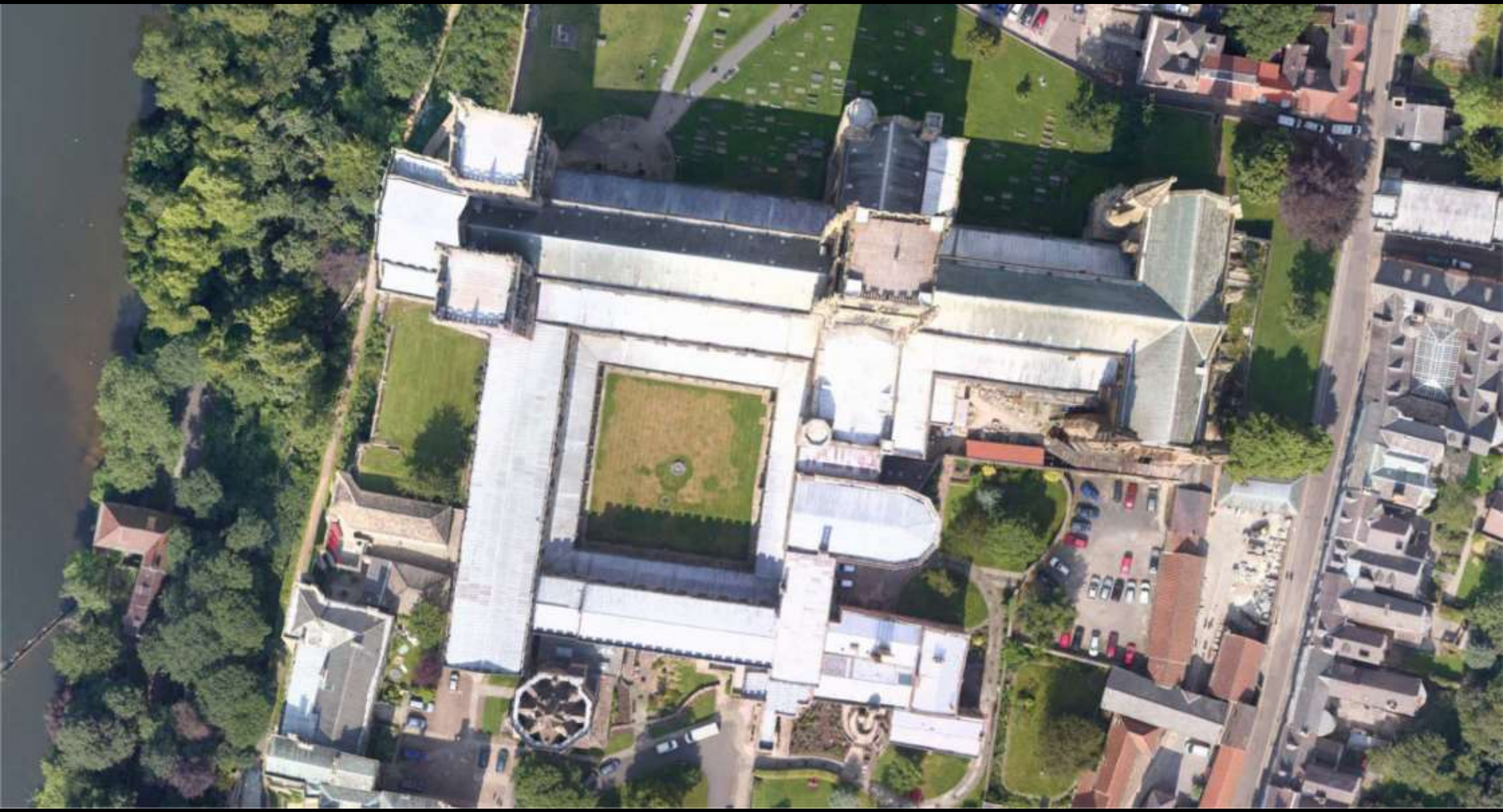
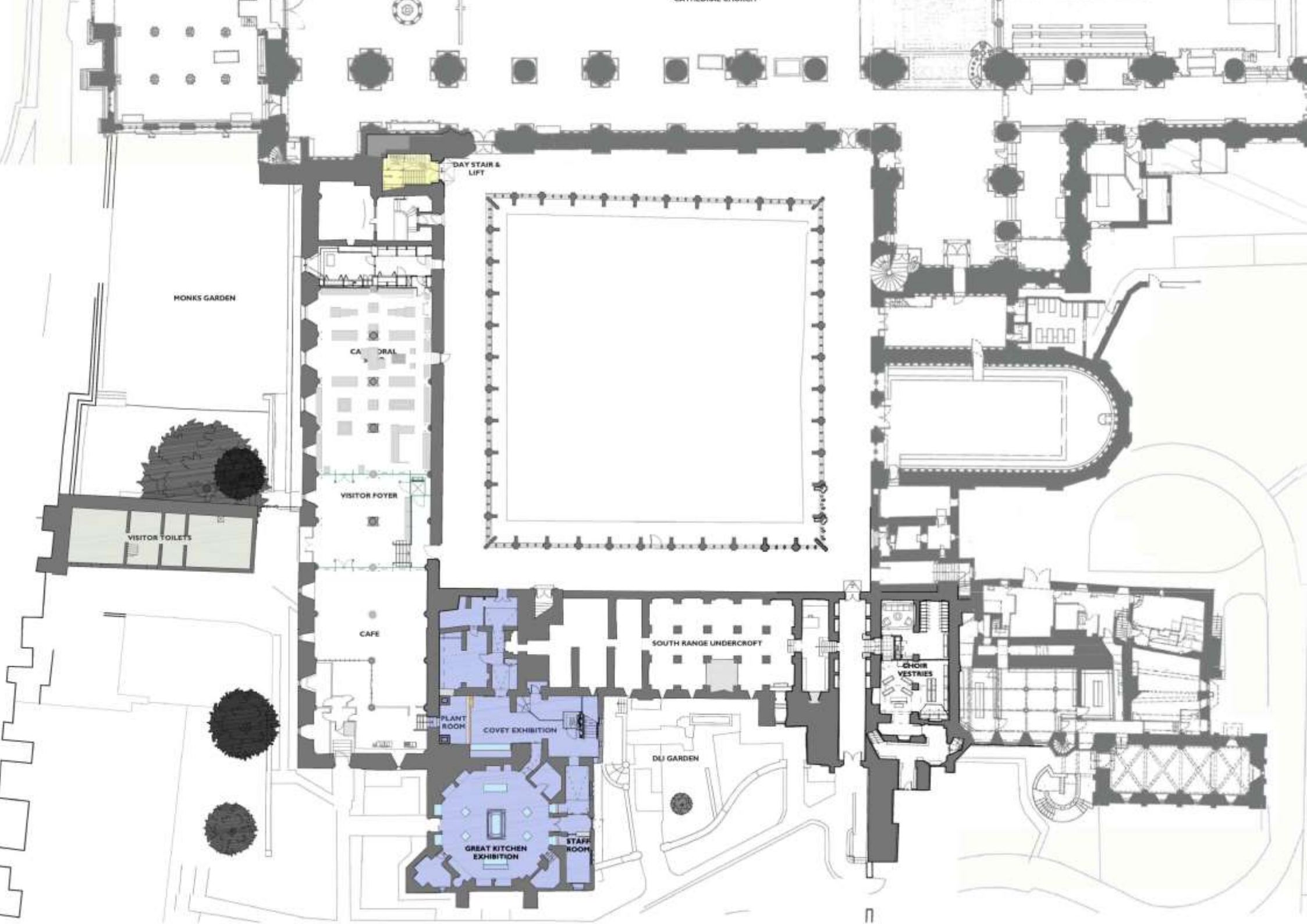
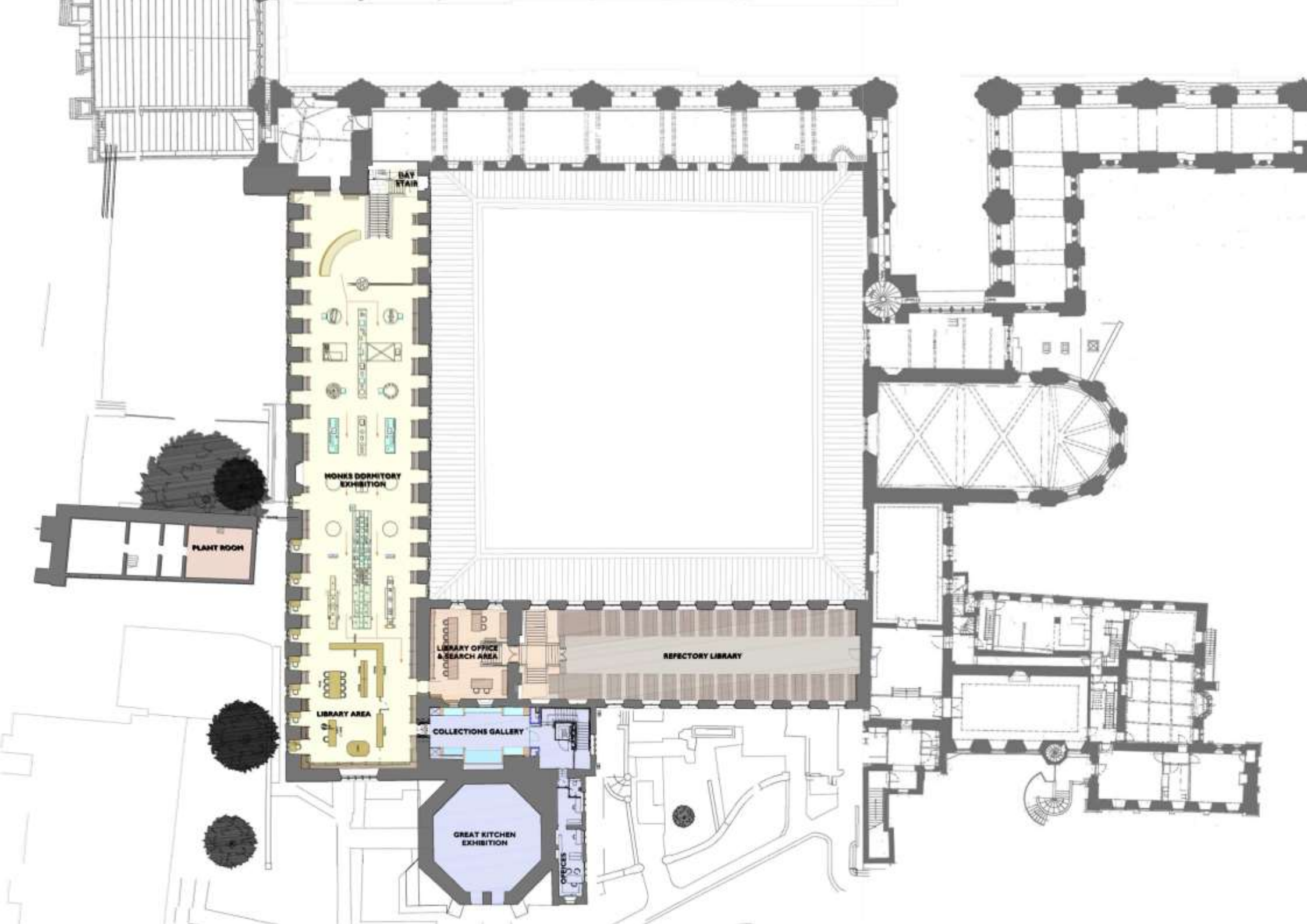
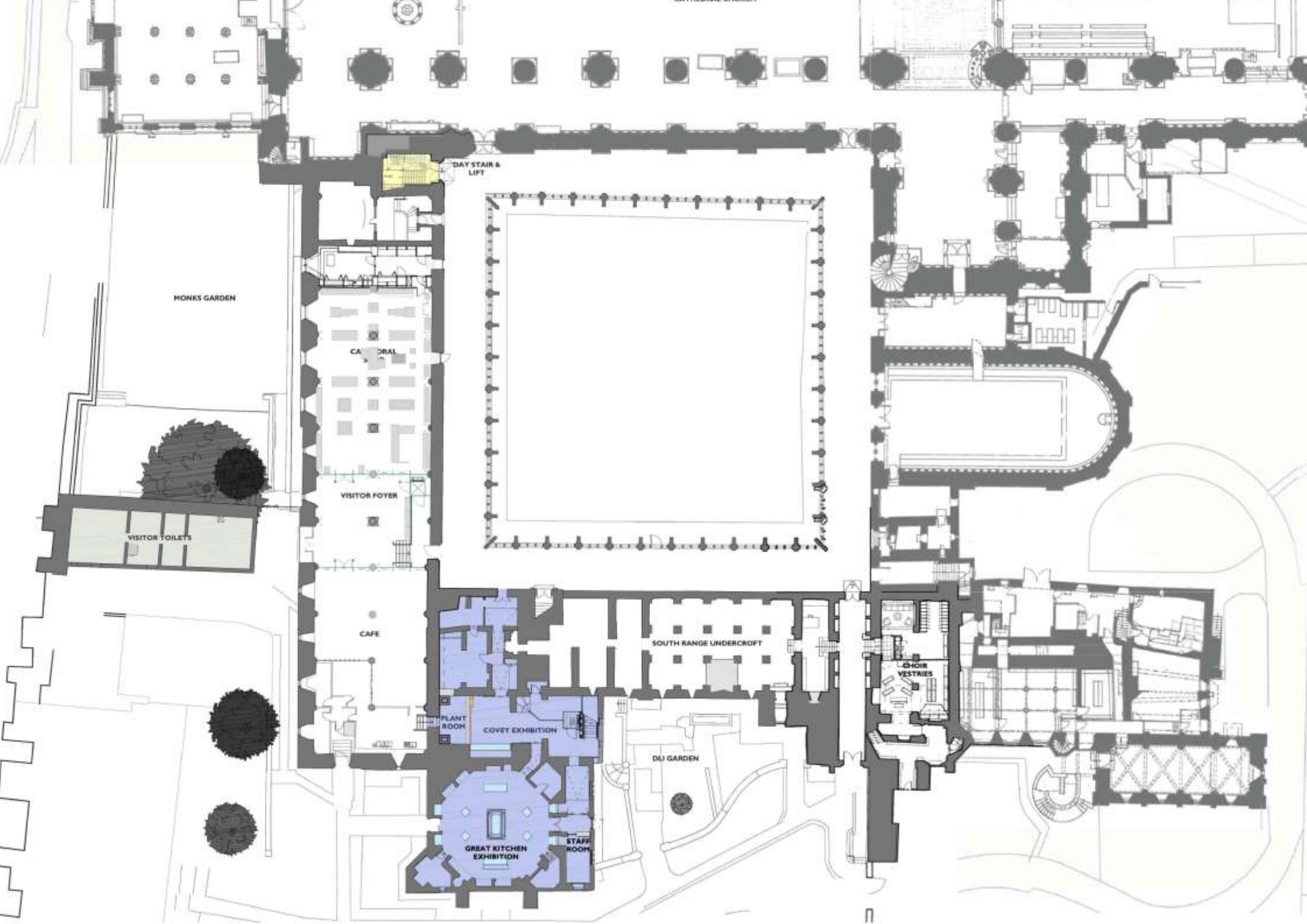



DAY STAIR & LIFT
MONKS GARDEN
VISITOR FOYER
VISITOR TOILETS
CAFE
SOUTH RANGE UNDERCROFT
CHOIR VESTRIES
PLANT ROOM
COVEY EXHIBITION
DU GARDEN
GREAT KITCHEN EXHIBITION
STAFF ROOM


BAY STAIR
MONKS DORMITORY EXHIBITION
PLANT ROOM
LIBRARY OFFICE & SEARCH AREA
REFECTORY LIBRARY
LIBRARY AREA
COLLECTIONS GALLERY
GREAT KITCHEN EXHIBITION
OFFICES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Durham Cathedral

Chapter of Durham Cathedral

Historic Buildings Appraisal - The Claustral Buildings

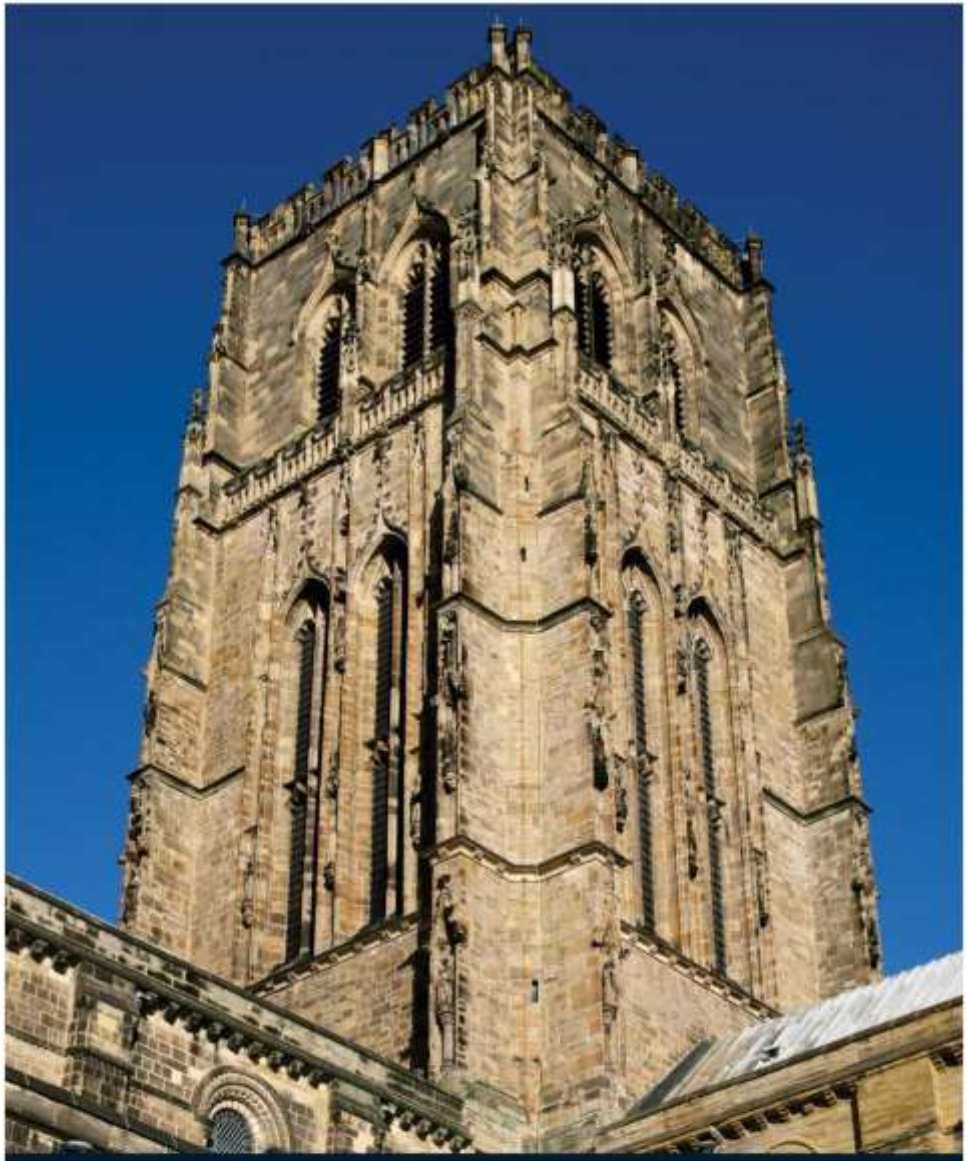
Purcell Miller Tritton LLP | 29 Marygate, York, YO30 7WH | Tel 01904 644 001
york@purcellmillertritton.com | www.purcellmillertritton.com
March 2012

THE CATHEDRAL CHURCH OF CHRIST, BLESSED MARY THE VIRGIN & ST CUTHBERT OF DURHAM

QUINQUENNIAL INSPECTION REPORT 2013

FOR THE DEAN & CHAPTER DURHAM CATHEDRAL

CHRISTOPHER COTTON RIBA, AABC
CATHEDRAL ARCHITECT



DURHAM CATHEDRAL

CURRENT STONEWORK CONSERVATION AND REPAIR POLICY

REVISION A (DRAFT 4)

CHRISTOPHER COTTON RIBA, AABC, CATHEDRAL ARCHITECT
DR ALEXANDER HOLTON, HERITAGE CONSULTANT

MARCH 2014

PURCELL

Differential erosion

Alveolar weathering

Delamination

Surface case-hardening

Surface scaling

Liesegang-related weathering

Black crust formation

Decay caused by incompatible materials

Ferrous insert damage

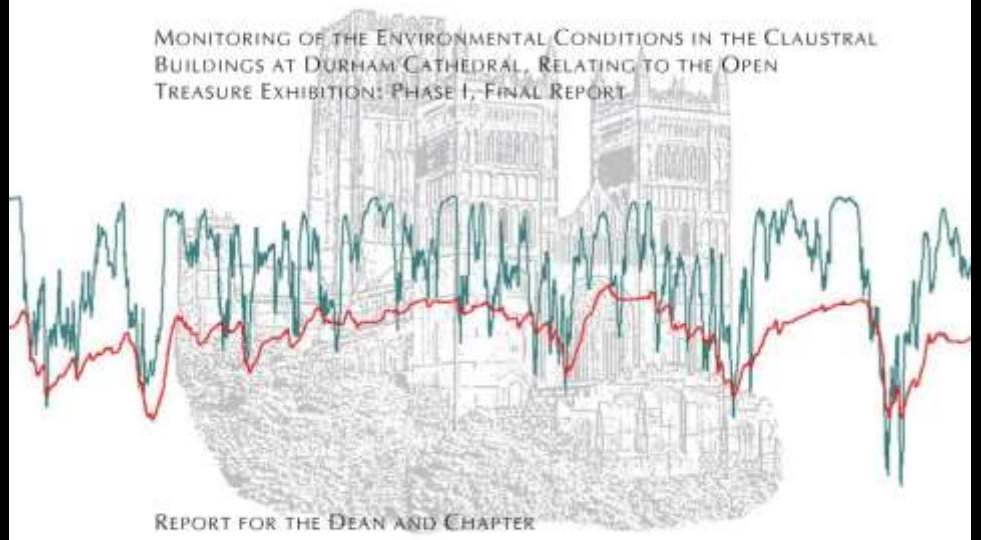
Calcareous migration

Granular disintegration

Salt-related decay

TOBIT CURTEIS ASSOCIATES LLP

Monitoring of the Environmental Conditions in the Claustral Buildings at Durham Cathedral, Relating to the Open Treasure Exhibition: Phase I, Final Report



Report for the Dean and Chapter

July 2014

33 Cavendish Avenue Cambridge CB1 7UR Tel 01223 501958 Fax 01223 790225
E-mail tc@tcassociates.co.uk Web www.tcassociates.co.uk

EXPLICIVNT CAPITVLA

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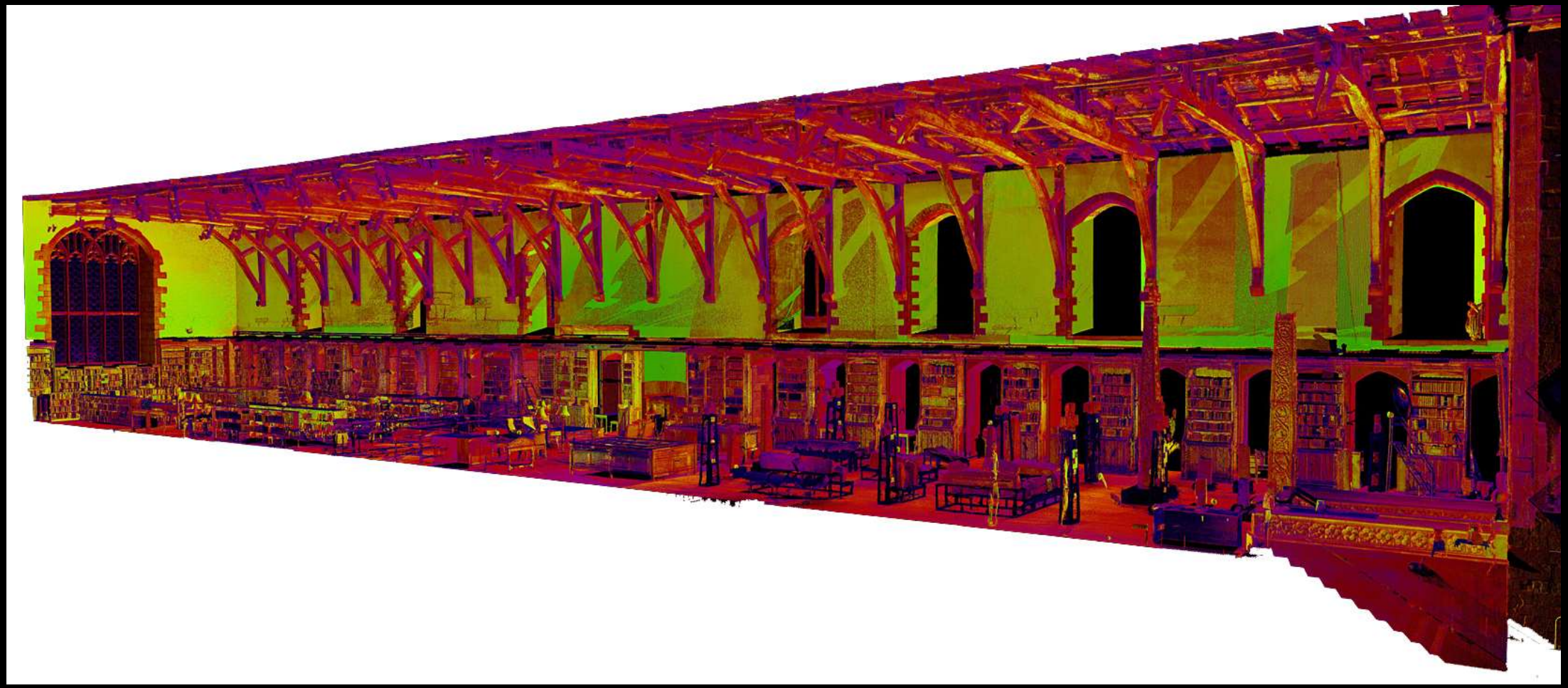
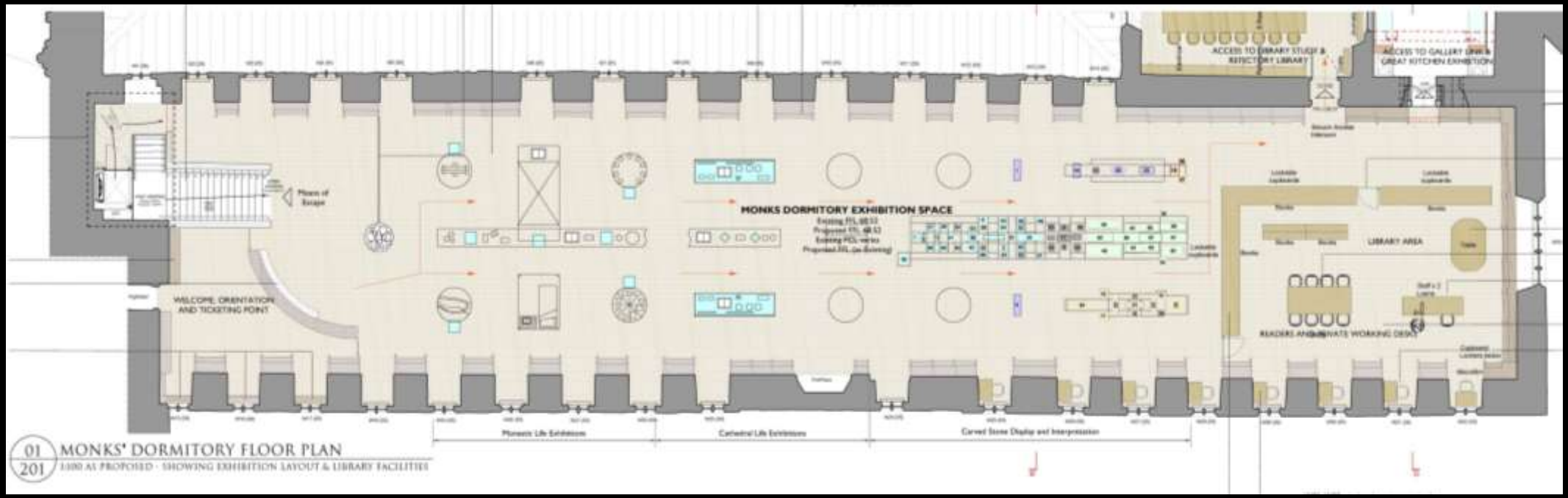




01/201 MONKS' DORMITORY FLOOR PLAN

1:100 AS PROPOSED - SHOWING EXHIBITION LAYOUT & LIBRARY FACILITIES


PURCELL

Durham Cathedral – Open Treasure Phase 1b

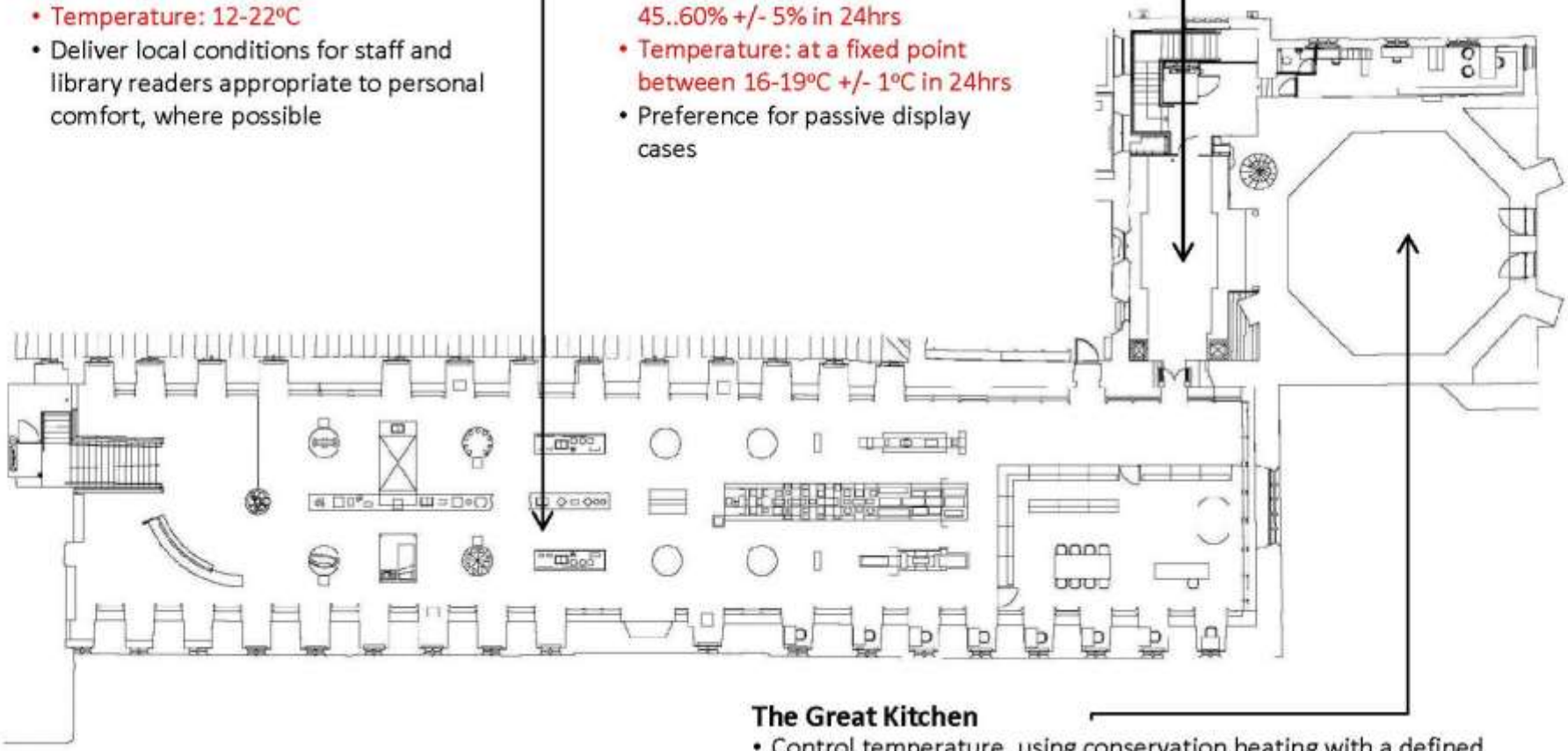
Target Environmental Conditions

The Monk's Dormitory

- Control temperature, using conservation heating with a defined range with a view to achieving stable humidity conditions
- Humidity: 40-60% RH
- Temperature: 12-22ºC
- Deliver local conditions for staff and library readers appropriate to personal comfort, where possible

The Collections Gallery

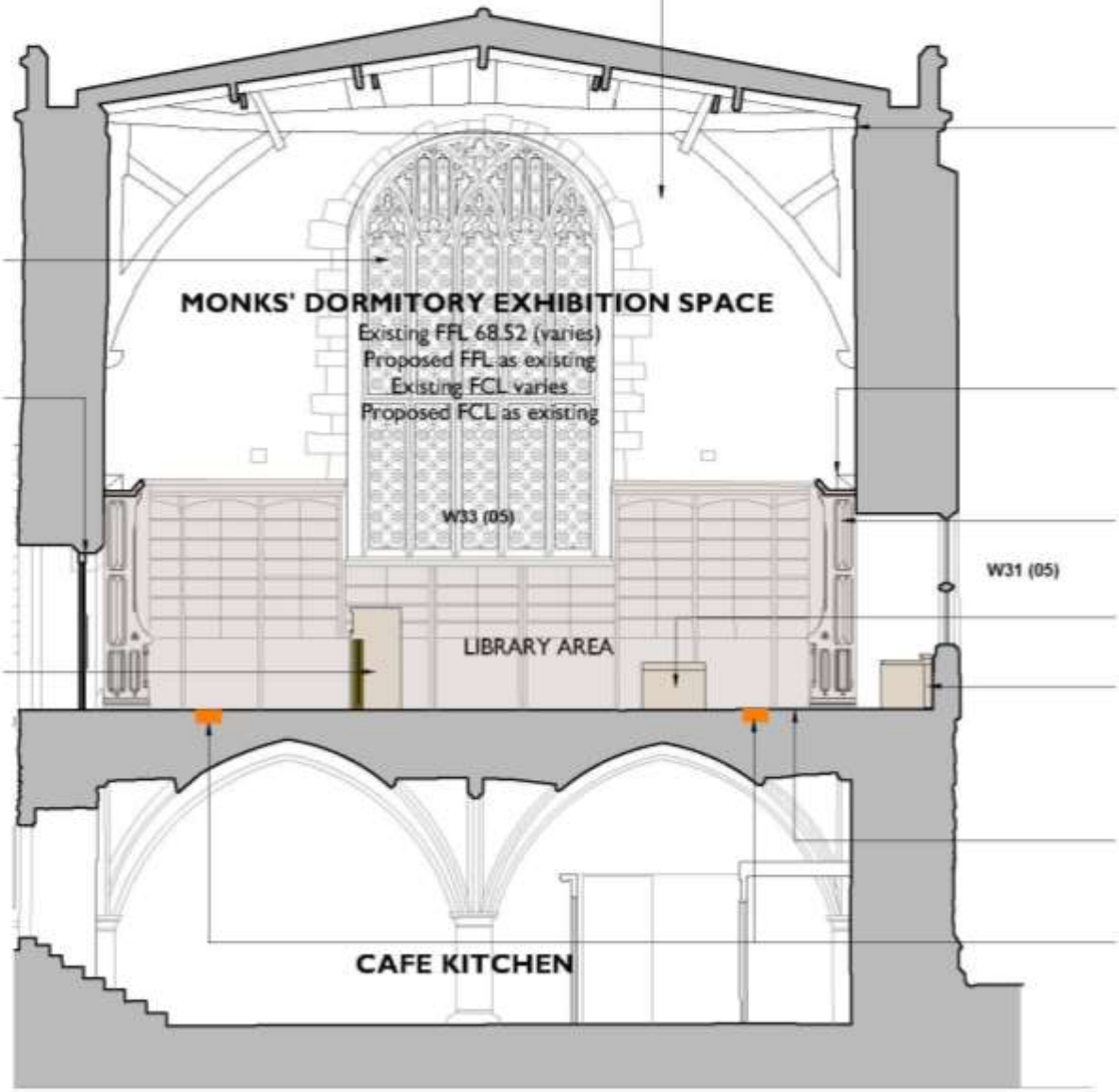
- BS5454 conditions ***within display cases*** to enable the exhibition of loan materials
- Humidity: at a fixed point between 45..60% +/- 5% in 24hrs
- Temperature: at a fixed point between 16-19ºC +/- 1ºC in 24hrs
- Preference for passive display cases



The Great Kitchen

- Control temperature, using conservation heating with a defined range with a view to achieving stable humidity conditions
- Stable humidity ***within display cases*** to enable the exhibition Durham Cathedral's Treasures
- Humidity: at a fixed point between 45..60% +/- 5% in 24hrs
- Temperature: 12-21ºC
- Preference for passive display cases


MONKS'
DORMITORY
PURCELL



All windows to receive secondary glazing. Refer to drawings 05-310, 05-311, 05-312

New oak cross-boarded double doors (D3(05)) within reopened original opening, traditionally constructed with iron rivets to be automatic opening and create entrance to Collections Gallery. Security roller shutter to be incorporated within reveal at high level. Refer to drawing 05-302 and 05-303

Separation to be created between Exhibition Area and Library Area through new Oak veneered display/bookcases with lockable cupboards to rear. Divide to provide privacy for library and direct exhibition visitors to Collections Gallery. Refer to drawing 05-351, 05-352 and 05-353

Following the removal of the modern emulsion paint finish, installation of buried cable chasing in walls and remedial works to plaster, all painted surfaces to receive 5no coats of lime wash as per M20/790. Refer to drawing 05-306 for details of cable chasing

Cable trunking, lighting tracks, uplighters, bookcase lighting and grilled tube heaters mounted on top of bookcases. Refer to drawing 05-306. All to M&E Engineer's details

Cable trunking on top of bookcases to be connected with cable trunking on high level ledge via chased and buried conduits in wall. Number and locations of chasing to be agreed on site. Refer to drawing 05-306 and M&E Engineer's details

Cable trunking, lighting tracks, uplighters and bookcase lighting mounted on top of bookcases. Refer to drawing 05-306. All to M&E Engineer's details

All historic and modern bookcases to have new oak casements with grilles to protect contents. Refer to drawing 05-300

New Librarian's Desk. Refer to drawing 05-354

All window bays except W1 (05), W15 (05), W16 (05), W17 (05) & W32 (05) to have new floor mounted cast iron column radiators, to sit centrally within each lower window bay. Refer to M&E Engineer's details

Existing timber floor to be retained, repaired, refurbished and refinished. Unacceptably damaged boards to be replaced. Refer to drawing 05-306

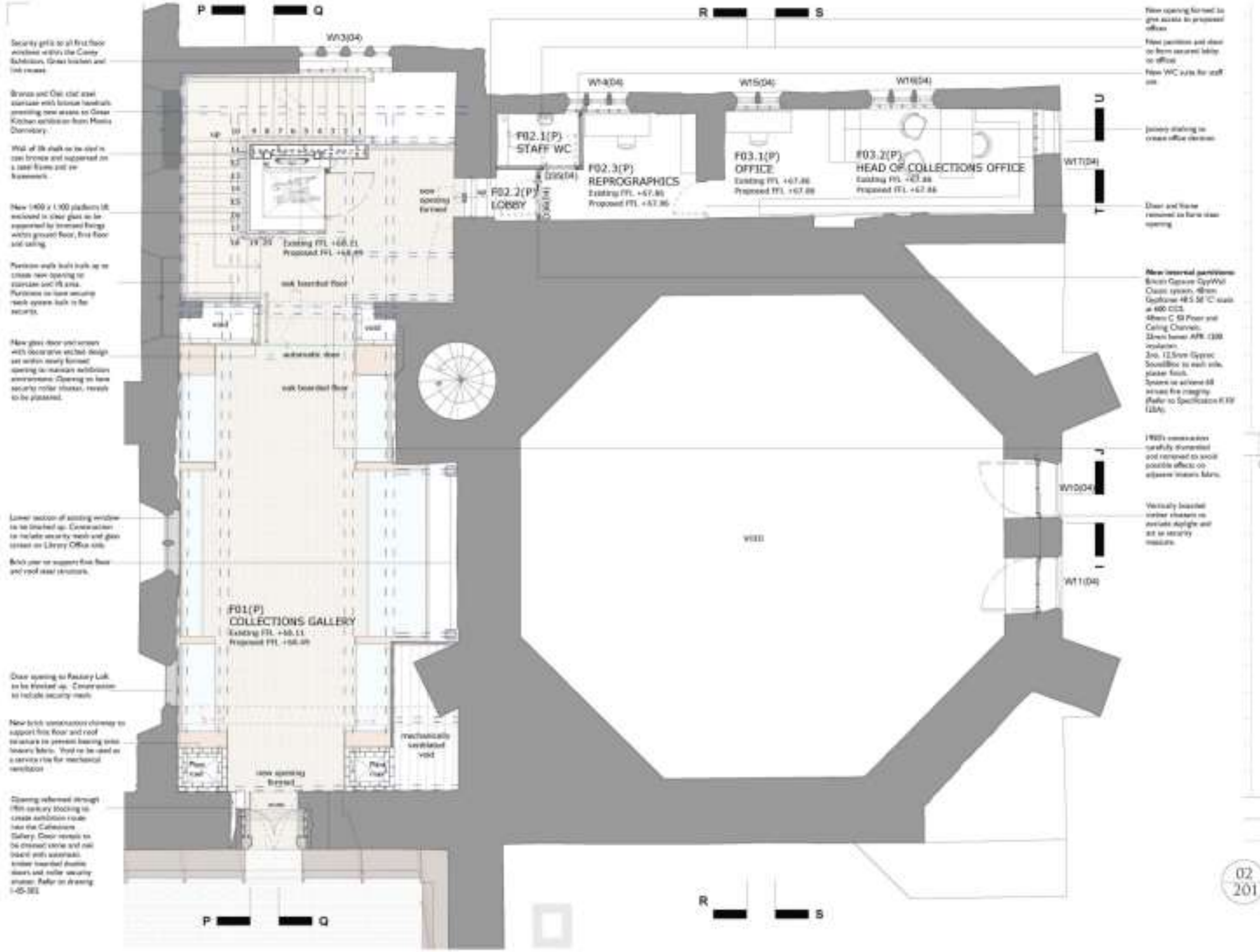
For details of service trenches, refer to M&E Engineers details and specification. Refer also to Structural Engineer's details for strengthen of joists

2/204 Monks' Dormitory Short Section D-D as Proposed

1:100

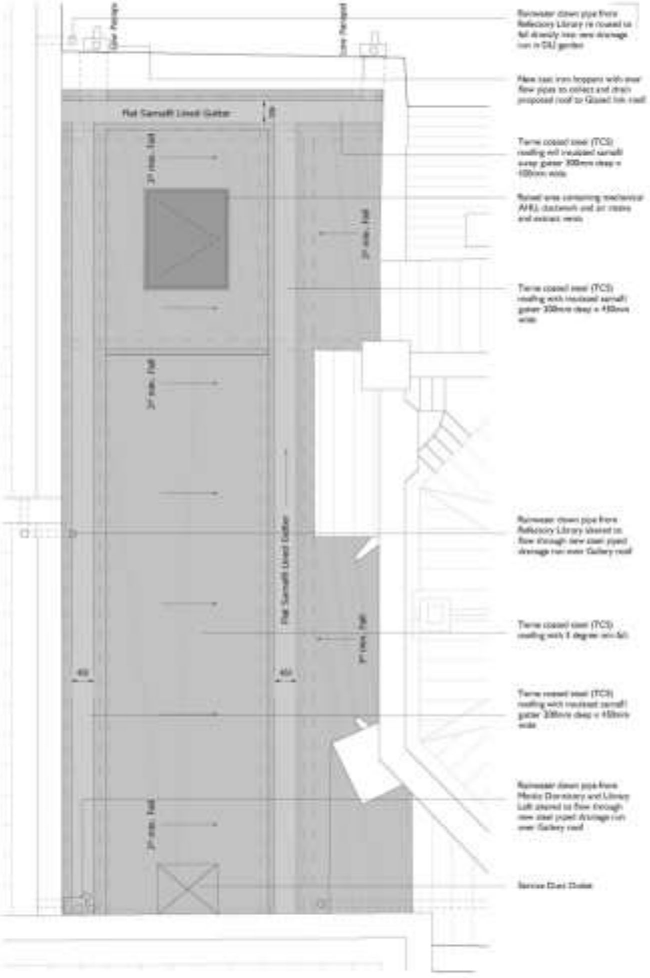
0 1m 2m 3m 4m 5m 10m

Monks' Dormitory Sketch Isometric South End



01/201 GREAT KITCHEN AND COVEY FIRST FLOOR
1:50 AS PROPOSED

NOTES:
All previously distempered surfaces to receive new lime wash finish. Where modern emulsion has been previously used, emulsion to be removed using alcohol based paint stripper combined with the removal of residue using a Thermatech vacuum system.



02/201 GALLERY LINK ROOF PLAN
AS PROPOSED

LOCATION PLAN 1:1000

DRAWING NOTES

Mechanical and Electrical

For further information see mechanical and electrical engineers drawings and spec.

Structural Notes

For further information see structural engineers drawings and spec.

General Notes

For Sections Refer to Dwgs. 04- 202 to 04- 206 and 04- 209

Notes

Drawings are based on survey data and may not accurately represent what is physically present.

Do not scale from this drawing. All dimensions are to be verified on site before proceeding with the work.

All dimensions are in millimeters unless noted otherwise.

Purcell shall be notified in writing of any discrepancies.

Key

- Outline of fabric to be altered
- New fabric
- New Dunhouse Catcastle stone flooring
- FFL Finished Floor Level
- EXL Excavation level

ISSUE	DATE	DRAWN	CHECKED	DESCRIPTION
D				
C				
B				
First Issue				

CLIENT	Durham Cathedral Chapter
PROJECT	Durham Cathedral Lindisfarne Gospels Exhibition
DRAWING TITLE	Phase 1B - Great Kitchen and Covey First Floor and Roof Plan as Proposed
SIZE & SCALE	1:50 @ A1
DRAWING STATUS	ISSUED FOR HLF STAGE 2
JOB NUMBER	232308
DRAWING NO.	04-201
REVISION	D

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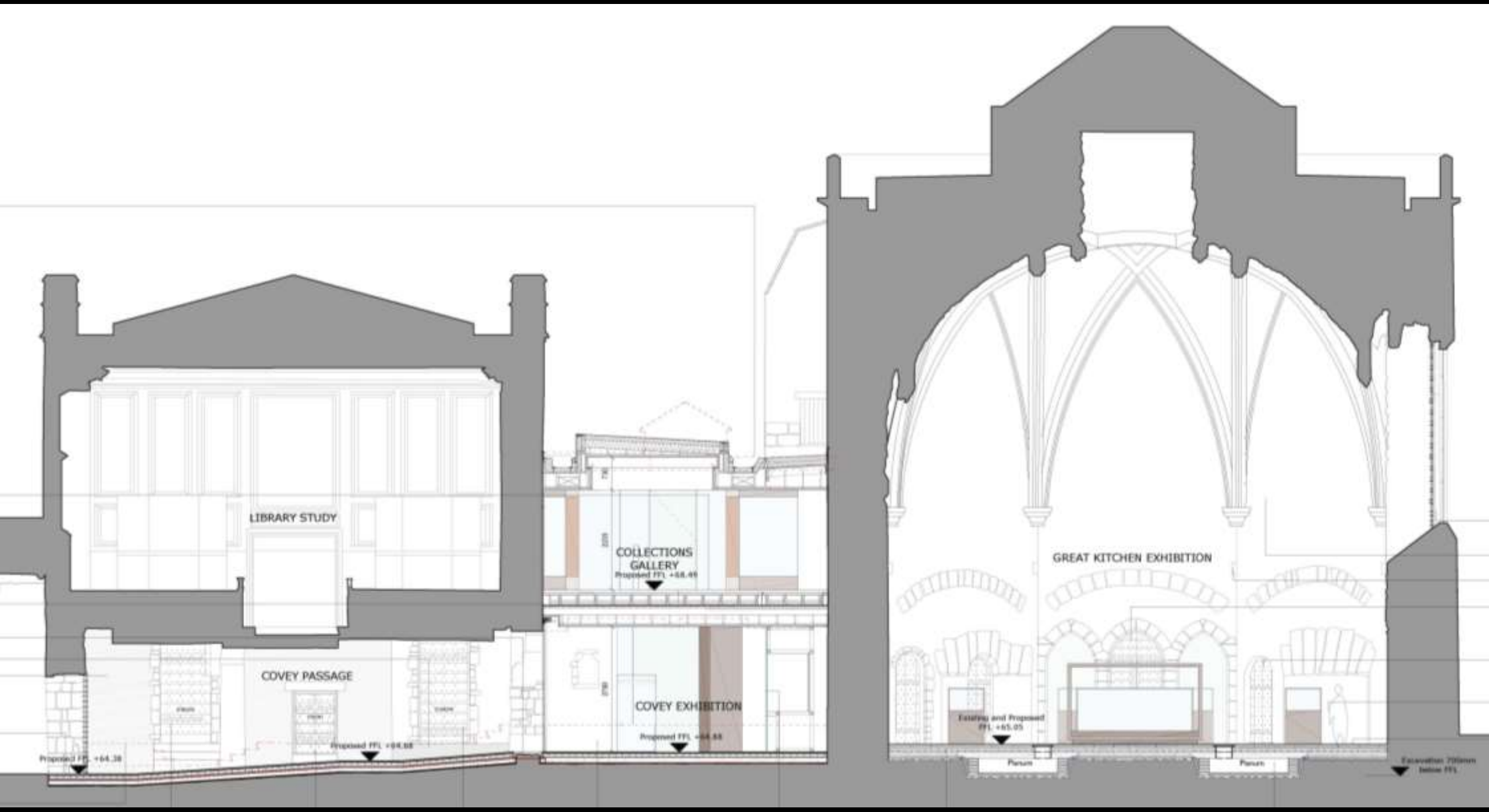

LIBRARY STUDY
COLLECTIONS GALLERY
COVEY PASSAGE
COVEY EXHIBITION
GREAT KITCHEN EXHIBITION
Panels
Panels


PURCELL

Durham Cathedral – Open Treasure Phase 1b

Issues – Winter Conditions

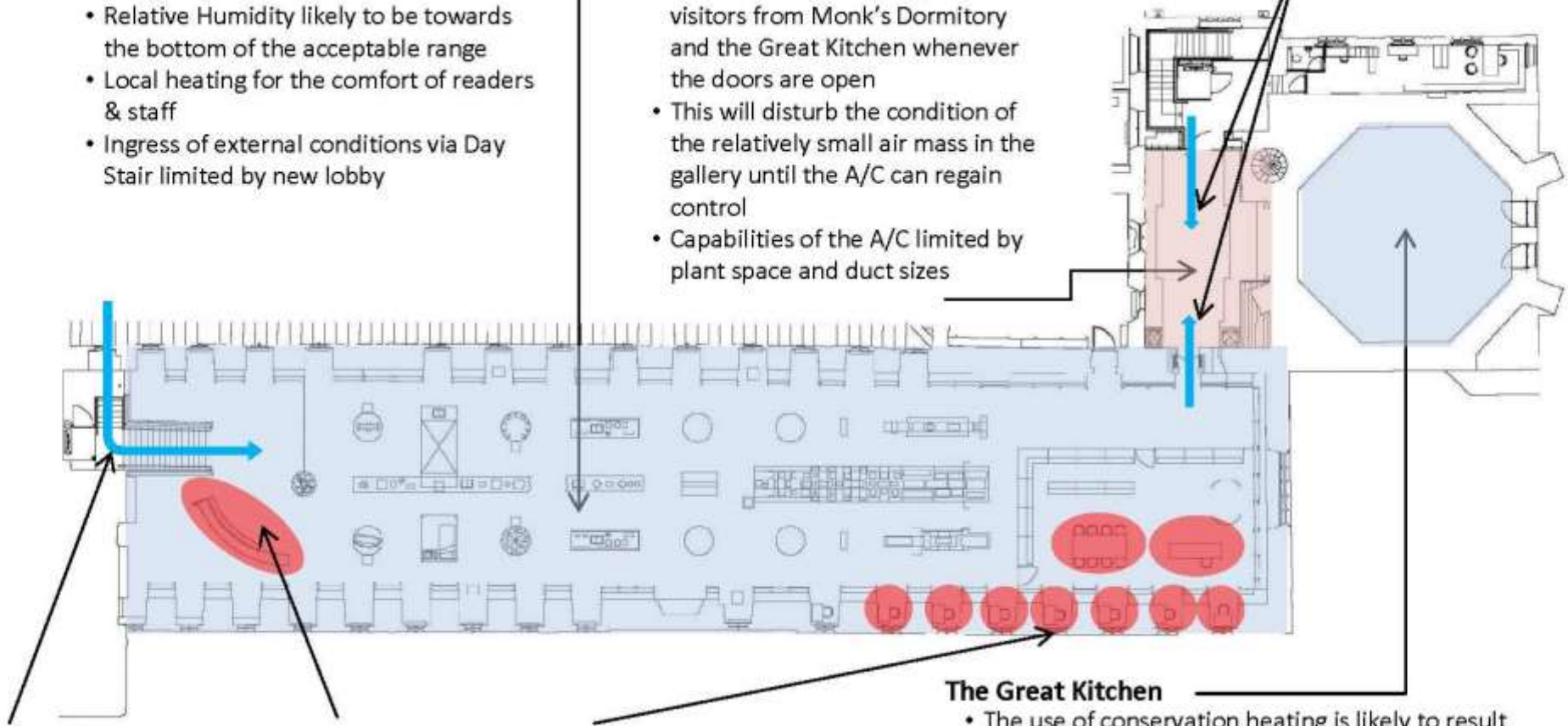
The Monk's Dormitory

- The use of conservation heating is likely to result in this space being relatively cold in order to keep RH within acceptable limits
- Relative Humidity likely to be towards the bottom of the acceptable range
- Local heating for the comfort of readers & staff
- Ingress of external conditions via Day Stair limited by new lobby

The Collections Gallery

- Air conditioning system will attempt to control space to 17.5°C and 50% RH
- Cold, dry air will enter space with visitors from Monk's Dormitory and the Great Kitchen whenever the doors are open
- This will disturb the condition of the relatively small air mass in the gallery until the A/C can regain control
- Capabilities of the A/C limited by plant space and duct sizes

Air movement from MD & GK into CG



External air enters up Day Stair

Local heating zones for the comfort of staff and readers

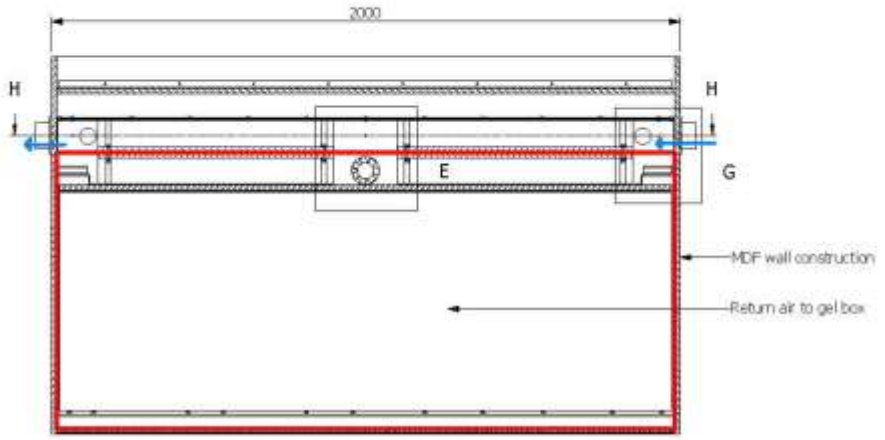
The Great Kitchen

- The use of conservation heating is likely to result in this space being relatively cold in order to keep RH within acceptable limits
- Relative Humidity likely to be towards the bottom of the acceptable range

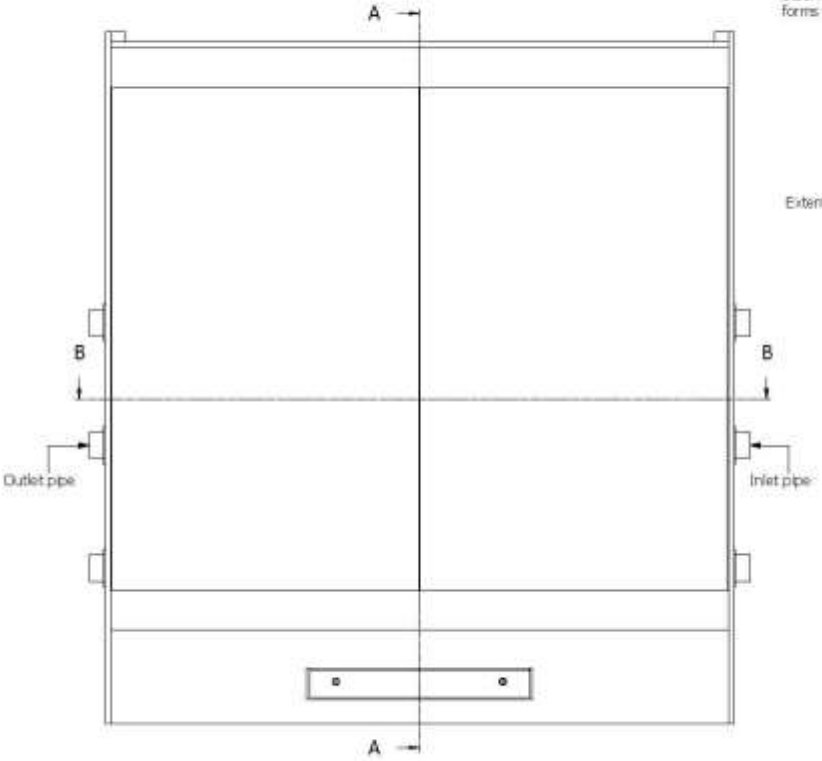
3rd Angle Projection

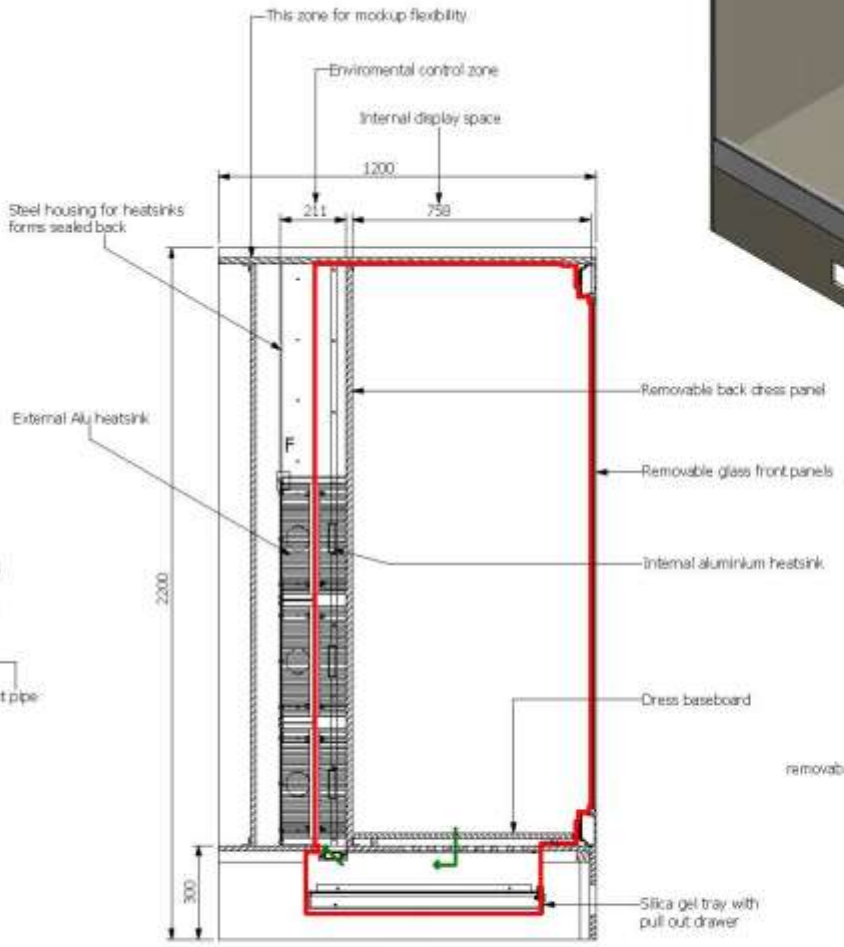
DO NOT SCALE - DIMENSIONS IN MILLIMETRES

Durham Cathedral Collections Gallery Prototype Case

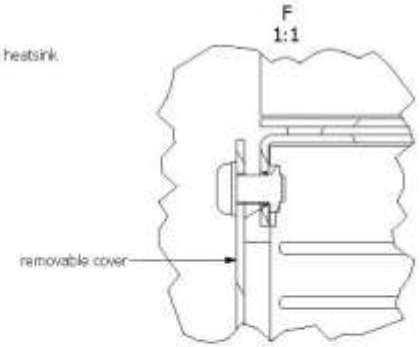


B-B





A-A



External Airflow

Internal Airflow

Sealed display enviroment

DRAWING NOTES

Mechanical and Electrical
For further information see mechanical and electrical engineers drawings and spec.

Structural Notes
For further information see structural engineers drawings and spec.

General Notes
For Sections Refer to Dwgs. 04- 202 to 04- 206 and 04- 209

LOCATION PLAN 1:1000

New cast iron rainwater down pipes, hoppers and overflows connected to existing drainage system.

Security grills on all ground floor windows within the Covey Exhibition, Great Kitchen and link routes.

Bronze and Oak clad steel staircase with bronze handrails providing new access to Great Kitchen exhibition from Monks Dormitory.

Wall of lift shaft to be clad in cast bronze and supported on a steel frame and tie framework.

New 1400 x 1100 platform lift enclosed in clear glass to be supported by bronzed fixings within ground floor, first floor and ceiling.

Frosted floor level to area in front of refectory hatch to remain as existing, with new floor construction, stone floor finish and under-floor heating.

Glazed balustrade with bronze handrail to raised viewing platform.

Glass floor panel to reveal 16th century wall base.

Stone winder stairs with bronze handrail to form access to refectory hatch viewing platform.

New vertical boarded oak door D7(04), stone steps and bronze handrail to access Refectory Loft staircase.

New automatic sliding door to Covey passage to maintain exhibition environment.

Archaeological wall base revealed.

Historic blocked doorways reopened and used as exhibition display and interpretation

Level access to cloister created by lowering floor level. Door to cloister to have automatic sensor to maintain exhibition environment.

Glass floor panel to reveal archaeology.

Door to Multi Purpose room rezoned floor so as lowered to create level access from Covey passage.

Existing towers opening reformed with new oak door and steps to access existing maintenance room.

Floor to existing bookshop lowered to achieve level access between Great Kitchen and South Cloister. Depth of new floor construction to be kept to a minimum.

AHU leaving out and access panels to be designed.

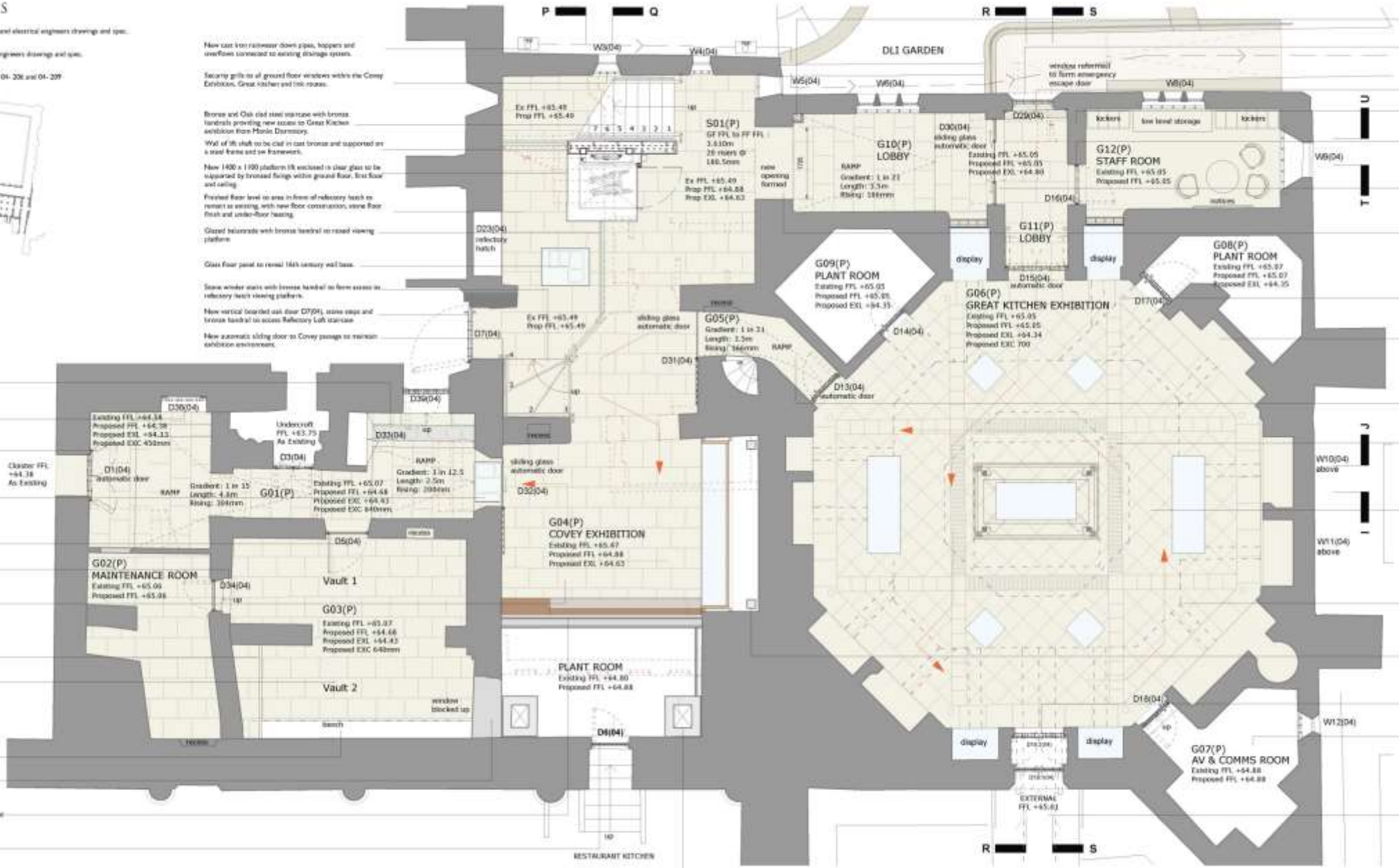
New Floor Build Up through Covey, Collections Gallery and Multipurpose Room
30mm Dunhouse Stone Tiles
12mm Lime Mortar Bed
22mm Veha Minitec underfloor heating system and loosrcreed.
30mm Kingspan Insulation
125mm Reinforced Concrete Slab

Plinth as existing to allow for new oak sup bench.

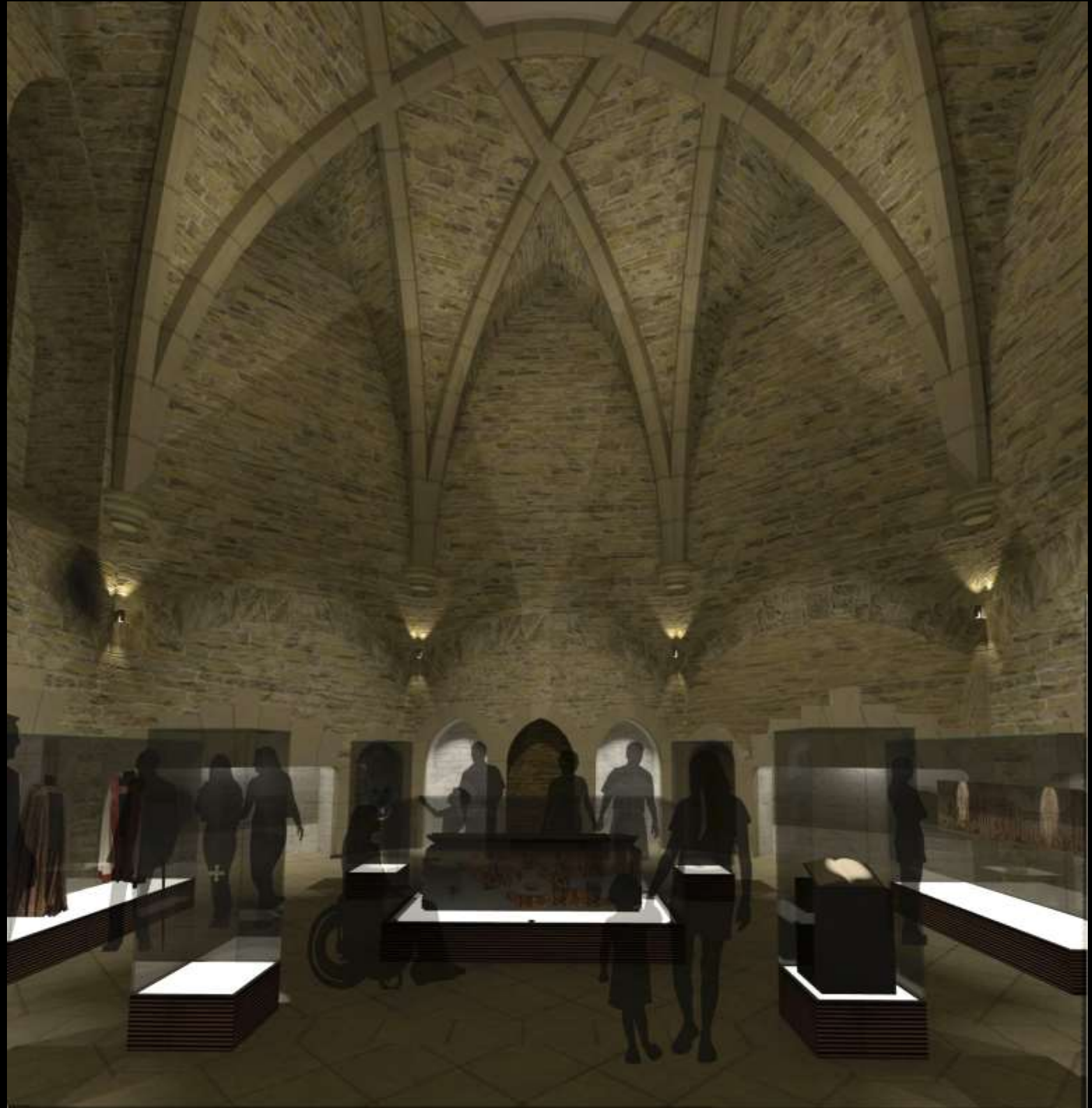
Blocked up window opening. Brick and lime plaster and high and low level bronze grilles, class TBC by M&E Engineers.

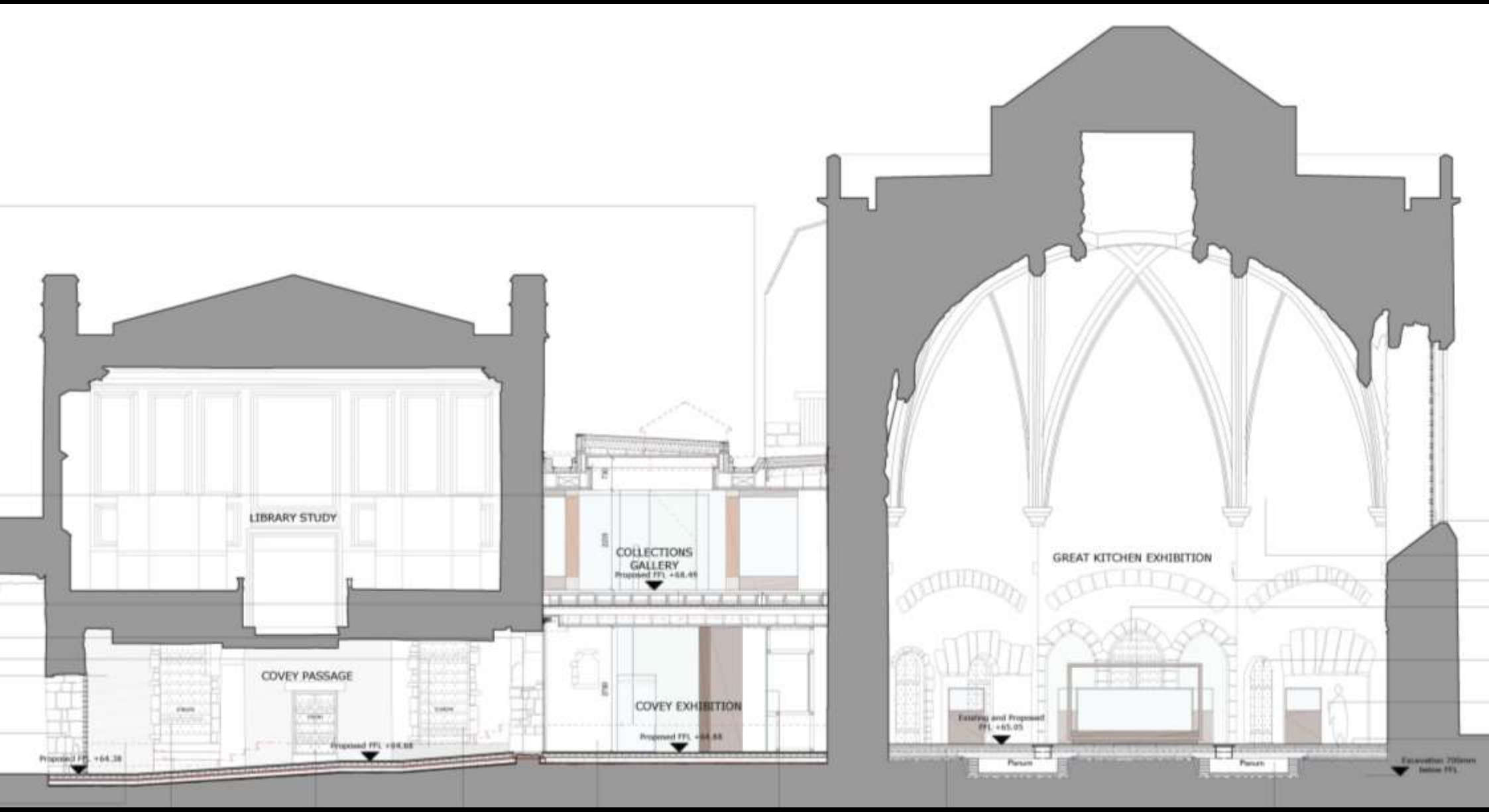
New wall construction, 15mm Lime plaster and limewash finish, 102.5mm Common clay brick wall, 50mm Security mesh and plate clear, 25mm Plasterboard and skim finish

New boarded door D6(04)no plate room



01 / 200 GREAT KITCHEN AND COVEY GROUND FLOOR
1:50 AS PROPOSED

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