Kendall Kingscott

Client
The Royal Institution of Cornwall

Project Number
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Roof Repair Works (MEND) at the Royal Cornwall Museum

Pre Construction Information

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Document Control Record

Version	Date	Prepared by	Checked by
T01	02/04/2024	Jowan James	Tom Cooke
T02	22/05/2024	Jowan James	Tom Cooke

Contents

Appendices

1.0 Project Description

1.1 Introduction

This Pre-construction Information has been prepared in accordance with the Construction (Design and Management) Regulations (CDM 2015). It provides information about the project specific exceptional risks to health and safety and how they should be managed.

The Principal Contractor will be required to develop this information into a Construction Phase Health & Safety Plan, which must be site specific and proportionate to the site risks. Work cannot commence until the plan is adequately developed and written confirmation will be provided on behalf of the Client.

The Contractor must ensure their responsibilities are discharged as Designers for the Contractor Design Portion of the project.

The Project is expected to be greater than 500 person days or 30 working days and have more than 20 operatives on site at any one time and therefore will have to be notified to the HSE.

1.2 Project Description & Programme Details

1.2.1 Site Information

The site address is Royal Cornwall Museum, River Street, Truro, TR1 2SJ.

The Royal Cornwall Museum is a 2/3 storey historic Grade 2 listed building that has been adapted and extended throughout its life. The building comprises of the former Truro Saving Bank and the former Baptist Chapel and a contemporary link building joining the two. The building is of masonry construction with a mixture of flat and pitched roof coverings.

Truro Savings Bank was constructed in 1845 and the Baptist Chapel was constructed soon after in 1848. In 1919 the bank was converted into the Royal Cornwall Museum with a significant extension to the rear forming the main gallery and paired wings. In 1998 the Baptist Chapel was incorporated into the museum with the construction of the link building.

The site is bordered to the North by The Leats public highway with residential apartments and houses beyond. To the West the site is bordered by the Coodes Solicitor's building with a shared party wall and a small section of derelict land. To the South the site is bordered by River Street and mixed-use commercial premises beyond. To the East the site is boarded by mixed use commercial premises with shared party walls.

The Royal Cornwall Museum is centrally located within the city of Truro with limited external spaces and no onsite parking.

1.2.2 Scope of the Project

- Replacement of pitched roof coverings
- Replacement of flat roof coverings
- Thermal improvement works
- Installation of new rainwater goods
- External render repair
- Installation of new external staircase
- Replacement of louvered doors

1.2.3 Programme Details

Mobilisation Period for Contractor	8 Weeks
Proposed Commencement Date	02nd September 2024
Proposed Completion Date	16th May 2025
Contract Duration	37 Weeks

1.3 Project Directory

1.3.1 Client

The Royal Institution of Cornwall, Royal Cornwall Museum, River Street, Truro, Cornwall, TR1 2SJ, Tel 01872 723239, contact Jonathan Morton jonathan.morton@royalcornwallmuseum.org.uk

1.3.2 Principal Designer & Lead Consultant Architect

Kendall Kingscott Ltd, Windward House, Fitzroy Road, Exeter, Devon, EX1 3LJ. Tel 01392 266890, contact Tom Cooke, tom.cooke@kendallkingscott.co.uk

1.3.3 Principal Contractor

TBC

1.4 Workplace (Health Safety & Welfare) Regulations 1992

1.4.1 Relevant Requirements

The completed project will be used as a workplace; consequently the finished design will comply with the relevant requirements of the Workplace (Health, Safety and Welfare) Regulations 1992, and this has been considered with the design information produced.

1.5 Existing Information

1.5.1 Existing Drawings

Existing original architectural drawings are available to view at The Royal Cornwall Museum upon request.

A set of existing digital drawings can be found within Appendix A.

1.5.2 Existing Plans & Records

An asbestos refurbishment and demolition survey is contained within Appendix B. An ecological bat and bird survey can be found within Appendix C.

2.0 Client's Considerations & Management

2.1 Planning & Communication Arrangements

2.1.1 Planning & Management of Construction

Careful consideration has been given to the planning and management of the project by the Client, Principal Designer. Timescales have been set based on experienced opinions which have been discussed and agreed within the Design Team. Design Hazard Reviews have been carried out during design development and a copy is contained in Appendix D

The Principal Contractor must submit a Method Statement that demonstrates the work is being adequately planned, co-ordinated, managed during the construction phase commensurate with the complexity of the project. Adequate resources must be apportioned to identifying hazards and assessing risks, and details provided of the safe management and supervision of the works.

The Principal Contractor will develop the information contained within this document and prepare the Construction Phase H&S Plan which must be suitably developed prior to commencing in accordance with Regulation 4(5)(a). The Principal Designer will review the document prior to commencement and will confirm whether works can commence based on sufficiency of the information. The Principal Contractor must therefore allow sufficient time for review and any necessary changes thereafter.

2.1.2 Communication & Liaison

All those in control of construction work are required to provide operatives (including self-employed) under their control with any information that they require to carry out the work safely and without risk to Health and Safety.

All operatives are to be site inducted to inform them of the site specific health, safety and welfare arrangements. This should incorporate relevant findings from risk assessments as well as information relating to nearby activities or risks. Site rules will need to be explained along with emergency procedures.

The Contractor must ensure suitable arrangements are in place to cover all operatives effectively. This includes operatives on site for a short period and those who are unable to read English or have literacy difficulties. The arrangements should be commensurate to the size and complexity of the work, scale of the hazards and size of the workforce.

Communication and liaison between the Client and all other parties will be in the form of general correspondence, Design Team meetings, Progress Meetings, and specially convened meetings to deal with Health and Safety matters if deemed necessary.

All duty holders will be required to co-ordinate their respective activities and cooperate with other duty holders in accordance with the Regulations.

Where the design changes, or unforeseen eventualities arise during the Construction Phase, the Principal Contractor is to liaise with the Principal Designer immediately so that consideration can be given to appropriate amendments to the Construction Phase H&S Plan.

The Principal Contractor undertakes to liaise with the Principal Designer to consider the Health and Safety implications of the Contractor Design Portions where relevant.

All Designers, the Principal Contractor and any other contractors will be required to provide relevant information to the Principal Designer for inclusion in the Health & Safety File.

2.1.3 Arrangements for Monitoring & Review

The Contractor will be required to provide details of Health & Safety performance at regular intervals throughout the duration of the works. It is expected that this will be performed by an independently accredited H&S Auditor, together with interim reviews by an appropriately trained Site Agent (SMSTS and CITB trained).

2.1.4 Welfare Provision

The Principal Contractor is to provide Welfare facilities in accordance with Regulation 4(2)(b), 13(4)(c) and 15(11) of the CDM Regulations 2015 and shall be commensurate to the site undertaking. Proposals for the siting of welfare facilities and temporary site accommodation facilities must be included within the

Contractor's Construction Phase Plan as a development of the Site Logistics requirements included in Appendix E. Welfare facilities MUST be on site at the commencement of the construction phase.

2.1.5 Ongoing Design Protocol

The Principal Contractor is to liaise with the Principal Designer regarding any on-going design work including temporary works, designed access equipment, individual specialist Contractor Design packages, or changes to the design. The Principal Contractor & Principal Designer will then consider the implications on the Construction Phase H&S Plan and site risks. Each element of design is to be co-ordinated for health and safety aspects by the Principal Designer.

2.2 Client Specific Considerations, Requirements & Arrangements

2.2.1 Health & Safety Goals

The main objective is to ensure that adequate actions and precautions are taken to prevent harm being caused to those carrying out construction work and others who may be affected.

a. To undertake the work safely without injury to Contractor's operatives.
b. To undertake the work safely without injury and minimum disruption to the visitors gaining access to the building.
c. To undertake the works safely without injury to persons not visiting the building but immediately adjoining the works.
d. Undertake careful site management to contain the works within agreed areas.
e. To undertake the work without injury and disruption to the occupants of the property.
f. Undertake the work safely without injury to, staff and visitors to the museum.
g. Undertake the work with minimum disruption to the normal day-to-day operations of the museum.
h. Undertake successful traffic management to avoid heavy construction traffic meeting day-to-day city traffic.
i. To undertake the works safely without injury or disruption to other works on onsite.

2.2.2 Arrangement for Site Security and Vetting Arrangements

The Principal Contractor shall have sole responsibility to ensure that the site is secured throughout the duration of the works. In particular, but not limited to, the Principal Contractor must ensure that:

a. Ensure all windows and doors are closed after use.
b. Erect suitable fencing around the site compound and working area
c. The Contractor shall provide their own signing-in book, which will register ALL operatives on site.
d. The Contractor shall access the working area from the secure compound.
e. The Contractor shall provide suitable fencing to prevent any unauthorised access to the scaffold surrounding the building.
f. The Contractor shall employ suitable measured to prevent climbing of the scaffold and unauthorised access onto the roofs.
g. The contractor shall provide monitored CCTV around the perimeter of the building and scaffold.

2.2.3 Client Permit to Work Systems of Induction Requirements

The Client does not operate a permit to work system.

2.2.4 Existing Fire & Emergency Procedures

On hearing the fire alarm, all persons are to evacuate the building by the nearest safe exit as indicated by the 'Fire Exit' signs, closing doors as they leave. All operatives on the roof are to evacuate down the scaffold using the designated routes. Operatives are to assemble at the designated muster point, and the appointed Fire Marshall must ensure all operatives are accounted for. In the event that a fire is discovered, the alarm should be raised, and adjoining occupancies affected notified as applicable by the agreed means of raising alarm which is to be detailed in the Construction Phase H&S Plan. The fire alarm system must be maintained throughout the construction phase and any impairment must be by prior agreement with

appropriate measures in place for means of raising alarm to adjoining occupancies as applicable.

The contractor must ensure all final exits are kept clear at all times, adequately lit with appropriate signage as applicable to be used in the event of an emergency.

2.2.5 Areas of Restricted Access & Authorisation Requirements

The Contractor is to be aware that for the duration of the works, the Principal Contractor and their employees are not allowed to access areas outside the works area unless previously agreed with the Contract Administrator.

The Contractor will not access the areas illustrated on the other works drawings in Appendix F

2.3 Site Area Interface Management Arrangements

2.3.1 Traffic & Pedestrian Management

Space on site is restricted and the Contractor will need to give careful consideration to the development of a Traffic Management plan which eliminates the risk of injury and disruption to persons using this site and/or the Contractor's employees.

A draft logistics plan has been developed and is contained within the tender documentation.

Furthermore, the Contractor is to be aware:

a. Access to the site compound will be via The Leats further impeded by the need for the road to remain clear throughout the duration of the works. The road contains a number of bends and constrictions which will affect the size of vehicles which can be brought to site. Due care and attention will need to be taken when gaining such access to the Site, particularly given that members of the public will be present throughout the works.
b. Pedestrian routes around the site must be maintained at all times, particularly fire escape routes.
c. All vehicle and plant movement is to be aided by the use of banksmen when manoeuvring within the site or the entrance area.
d. Ensure all roads and footpaths are protected and maintained in a condition suitable for foot and vehicular traffic.
e. Ensure that all delivery and collection vehicles use the designated entrance/exit and comply with any restrictions.
f. Ensure occupiers and members of the public are afforded safe access and egress, and that all means of escape in the event of fire, or other hazardous occurrences, are maintained at all times.

2.3.2 Arrangements for Site Compound, Separation & Control of Dust, Noise & Vibration

a. The Principal Contractor shall erect hoarding, fencing and suitable barriers separate the working area from any public and prevent access being gained to the Site Compound, Scaffold, or Roofs.
b. The Contractor shall ensure that all stored materials and tools are kept clear from any public accessible area and such storage does not block any fire escape routes or create a trip hazard.
c. All hoarding, fencing or barriers shall be provided with suitable signage stating, 'Danger Construction Site' and providing contact details of the Contractor.
d. The location and provision of such areas will be restricted due to the lack of available space and for health and safety reasons, delivery and storage of such materials must be organised to accommodate this restriction. All materials are to be contained within the working area of site compound.
e. To be determined on site. Storage will be within the compound, which must be secured. Deliveries shall be carefully timed.
f. The Contractor is to keep dust and noise disruption down to a minimum. The site is an occupied school for the duration of the scheme.
g. The Contractor is to provide monitored CCTC around the perimeter of the scaffold and ensure it is suitably secure to prevent members of the public gaining access.

2.3.3 Site Area Fire Precautions

In addition to the wider existing site requirements of 2.2.4, a competent person must be appointed to act as a Fire Marshall and the proposed fire and emergency procedures included within the Construction Phase H&S Plan in the form of a Fire Plan. The Fire Plan must integrate with the Client's Fire Policy, as applicable, and must be prominently displayed at strategically identified points throughout the site. The Fire Plan should include, but not limited to the following:

a. Name of Fire Marshall;
b. Means of escape indicating escape routes, including scaffolding. (This should be amended to reflect the change in layout during the construction phase, as applicable);
c. Means of raising fire alarm on site;
d. Means of notification to any third-party in the event of fire;
e. Location and type of fire extinguishers;
f. Emergency and evacuation procedures;
g. Hot Work permit procedures;
h. Final exits and muster points;
i. Method for maintaining fire alarm in active state outside working hours in site areas;
j. Protection of existing fire exit routes;
k. Temporary lighting and signage considerations.

2.3.4 Emergency Procedures & First Aid

An emergency First Aid Notice shall be displayed on site at all times. This should identify the nearest Accident & Emergency Centre to the site and also the registered First Aider(s) for the site. Trained First Aider(s) must be on site at all times. Procedures in respect of other emergencies should be described within the Construction Phase H&S Plan and communicated to all operatives and visitors. This should include, but not limited to:

a. Location and telephone number of local Police Station;
b. Location and telephone number of local A&E;
c. Location and telephone number of local fire and rescue station;
d. Emergency number for statutory services;
e. Emergency number for the Environment Agency.

The Principal Contractor is to immediately report to the Principal Designer any accident resulting in major injury (as defined in RIDDOR). All accidents are to be recorded as an element within the Principal Contractor's report to be given at each site meeting.

2.3.5 Arrangements for Disruption to Services

The Principal Contractor will be expected to ensure that the museum's existing fire alarm system remains live for the duration of the works. Throughout the contract the museum will be accessed by visitors and staff and it's important that such persons can be notified in case of fire.

Site-wide shutdown of, electricity, gas, water or network will not be permitted. It is expected that it will be possible to undertake the works with localised isolation of services, the timings and extent of which will be agreed at the pre-contract meeting.

2.3.6 Waste Management

In accordance with the appropriate environmental legislation, all waste generated from site shall be segregated and disposed of to a licensed tip by suitably licensed contractors. Waste materials are to be stored in lockable skips within the contractor's compound with final location to be agreed.

Site deliveries and waste collection will only be permitted outside the restrictions stated previously.

Removal of hazardous waste must be undertaken in accordance with the requirements of the relevant local enforcing bodies and any overarching Regulations or legislation.

State waste management proposals i.e. location of skip if known and that it will need to be covered and lockable. State any particular issues with removal of waste from site i.e. restricted site, transfer difficulties due to site location.

Particular considerations:

a. Site deliveries and waste collection will need to River Street and The Leats will need to remain open to the public and cannot be blocked.

b. Waste materials are to be removed from site as soon as is practicable to minimise the loss of usable site space.

c. Ensure all materials are stored in agreed designated areas and that materials stored are well maintained. Materials should not be stored on any public areas and materials stored shall be kept to the minimum commensurate with the construction activities under way at that time, or in the immediate future.

d. Ensure that skips are located in agreed designated locations and that skips are promptly removed when full. Damp down and cover skips as necessary to prevent excessive dust, debris contaminating the area.

2.3.7 Parking Arrangements

The Contractor will not have access to any onsite parking throughout the works.

The Principle Contractor is to give consideration and make arrangement to secure private parking in proximity to the Museum throughout the works.

2.3.8 Smoking Restrictions

The Health Act 2006 requires that all enclosed premises and public areas are smoke free, and alternative arrangements are to be in put in place to ensure the compliance with the Act.

3.0 Environmental Restrictions & Existing Risks

3.1 Surrounding Operational Environment

3.1.1 Immediate Vicinity

The works are to be undertaken within an occupied museum. The methods used to undertake the works must be carefully considered to eliminate harm and to minimise disruption and nuisance. In some cases, works will occur above and in close proximity to visitors and staff.

The following are also significant considerations:

a. The Royal Cornwall Museum is centrally located within the city of Truro . The museum is accessed via a narrow streets further impeded by on-street parking. The museum will be occupied throughout the contract period.

b. The site has limited exterior space to the front and rear and shares a party wall with other premises to the left and right.

c. The site is accessed via narrow streets through the city centre of Turro.

d. There are overhead cables located on River Street and The Leats providing height restrictions.

e. There is no provision for vehicular turning spaces.

f. All visitors to the site must report to the Principal Contractor's site office or Site Manager where identification and protective clothing will be provided.

g. Agreed access routes to the site must be observed at all times. No deliveries are to be made during the periods of peak pedestrian and vehicular traffic. The Contractor must ensure that formal instruction is given to all vehicle drivers and that this procedure is included in the Construction Phase Health and Safety Plan.

h. All manual handling is to be carried out strictly in accordance with The Manual Handling Operation Regulations 1992.

i. Ensure adequate notices indicating the areas of construction are displayed and provide sufficient

watching to prevent persons entering areas of construction.

j. Ensure clear demarcation between areas the public may access and all areas where construction work is being undertaken.

k. The building will remain in full occupation for the duration of the work. Include for all temporary barricading as required.

l. The musem will be fully occupied throughout the Contract Period. Therefore, working operations must take account of and ensure the safety of the occupants both in the property and in the adjoining areas and properties. Such safety must extend to periods outside of normal working hours. The Contractor shall note the requirement to reinstate essential services prior to leaving site at the end of each working day.

3.1.2 Site Boundaries & Wider Area

The site shares a boundary to the North with The Leats public highway with residential apartments and houses beyond. To the West the site shares a boundary with the Coodes Solicitor's building with a shared party wall and a small section of derelict land. To the South the site shares a boundary with River Street and mixed-use commercial premises beyond. To the East the site shares a boundary with mixed use commercial premises with shared party walls.

The museum is located within the city centre of Truro.

3.1.3 Storage of Hazardous Materials on Site

No information has been made available about hazardous materials stored on site.

3.2 Historical, Current & Record Information

3.2.1 Known Previous Site Issues

The site was used as Truro Savings Bank and a Baptist Chapel from the 1840's. In 1919 the bank was converted into a museum and in 1998 the museum was extended, and the chapel was incorporated into the museum.

3.2.2 Building Condition & Information about Existing Structures

No information about the existing condition of the building and existing structures has been provided to the Principal Designer.

The original buildings are understood to have been constructed the 1840s. Multiple alterations to the original footprint have been carried out since original construction.

3.2.3 Previous Structural Modifications

No information about previous structural modifications has been provided to the Principal Designer.

3.2.4 Existing Services

The Principal Contractor will be required to undertake surveys of the below ground services prior to the commencement of works. The Principal Contractor will be responsible for verifying their location and implementing safe and effective work procedures and practices before commencing any excavation. Reference should be made to HSE Guidance Note HS(G) 47 'Avoiding Danger from Underground Services.

The location of buried services within the building fabric outside the areas surveyed are not known and the contractor must take all necessary steps to ensure that they are located before carrying out any work. It must be assumed that all services are live within the site unless there is strong and verified evidence to suggest otherwise.

If isolation of services is considered necessary, the Principal Contractor must refer to the procedures outlined in 2.3.5.

3.2.5 Ground Conditions, Underground Structures or Watercourses

No information regarding ground conditions has been provided to the Principal Designer. It is not expected that the works will be affected by ground conditions.

3.2.6 Information relating to Pre-Stressed or Post Tensioned Structures

No information regarding pre-stressed or post-tensioned structures has been provided to the Principal

Designer.

3.2.7 Asbestos

An R&D Asbestos Survey has been prepared and is contained in Appendix B. Reference should also be made to the limitations described within the report and the need to undertake further intrusive investigation prior to undertaking any construction work.

For any materials identified all work with asbestos is to be undertaken in accordance with the Control of Asbestos Regulations 2012. The Principal Contractor and their appointed specialist will be required to undertake an assessment in accordance with these Regulations to demonstrate that the work is either Non licensed, notifiable non licensed or licensed work.:

It is expected that all operatives on site will have received Asbestos Awareness training via a UKATA accredited company.

If during the course of the works any further suspect material is discovered, then work must be stopped immediately, area cordoned off and advice sought from both the Principal Designer or CA.

Waste disposal tickets for any asbestos materials removed must be retained and forwarded to the Principal Designer for inclusion in the Health and Safety File together with Four Stage Air Clearance Certificates for any notifiable materials removed. All notifiable materials must be removed by a HSE licensed asbestos removal contractor.

The Principal Contractor should be aware that the surveys are limited to the indicated site boundaries and should the scope and extent of works change then additional investigations will be required to these areas.

4.0 Significant Design & Construction Hazards

4.1 General

The Principal Contractor shall take note of information provided by all designers, including, any design assumptions noted, and develop a safe system of work to address the risk. A copy of the Design Hazard Review that forms the basis of the significant risks identified below is included in Appendix D. In addition, significant risks have also been identified on the drawings wherever possible.

The Principal Contractor will be required to develop appropriate site specific Risk Assessments and Method Statements prior to executing any high risk or hazardous activity. The Principle Contractor shall give specific consideration to the complex nature of the site and how the roof replacement works shall be undertaken.

4.2 Site Specific Design and Construction Hazards & Control Measures

The following significant hazards have been identified. These must be properly addressed by the Principal Contractor in the form of implementing a safe system of work before work commences on site:

HAZ 01	CORONAVIRUS (COVID-19)
HAZ 02	Working at Height
HAZ 03	Working with Glass and Glazing
HAZ 04	Working within the vicinity of live services
HAZ 05	Working above an occupied space
HAZ 06	Working within close proximity of the public
HAZ 07	Availability of Cornish slates
HAZ 08	Ecological protection
HAZ 09	Vehicular movement. The Contractor is to ensure that banksmen are always in place whilst vehicles move around the site.

HAZ 10	Statutory consents
HAZ 11	Unauthorised/ unwary persons accessing the working areas. Site areas to be protected from unauthorised access at all times.
HAZ 12	Other works onsite.
HAZ 13	Removal of materials/safe transit. The Contractor is to ensure that suitable PPE and method statements are in place for the removal of materials and that any machinery used is undertaken through competent and qualified staff.
HAZ 14	Fire risk from torch applied felt roofing
HAZ 15	Concealed defects & deleterious materials
HAZ 16	Disruption to fire stopping/ compartmentation. Any proposed works that affect existing fire breaks are to be agreed with the design team, and undertaken and certified by a competent Contractor.
HAZ 17	Removing and installing insulation above the main gallery where glazing is present within the ceiling.
HAZ 18	Fragile slate roof coverings, risk of falling through. Contractor required to undertake works in a safe manner.

4.3 Materials Requiring Special Precautions

The Contractor is to abide by the manufacturer's recommendations in the use of the materials specified, in particular their COSHH hazard information. The Contractor's method of ensuring compliance with this information is deemed to be part of the general approach of a competent contractor.

The Principal Contractor should exercise caution when handling the various hazardous substances which are commonly used. Material Data Safety Sheets should be referred to and COSSH assessments undertaken, as applicable.

Particular activities involving materials which are hazardous to health need to be assessed. Method statements should be established prior to works commencing.

The following hazardous materials have been identified requiring particular precautions:

MAT 01	Asbestos
MAT 02	Use of lead
MAT 03	Molten bitumen
MAT 04	Adhesives with light VoCs
MAT 05	Intumescent materials (fire stopping etc.)
MAT 06	Cement and silica

5.0 The Health & Safety File

5.1 Contents & Information Required

The following information is to be provided for inclusion in the Health & Safety File. Reference should be made to the Contract Preliminaries for numbers of copies and format - i.e. paper/electronic. Draft copies should be made available for inspection at least two weeks prior to the proposed completion date and will be a condition of Practical Completion.

a. Services (to be provided by Principal Contractor and Designers)

   Location and details of all new incoming mains services, water, electric, gas and drainage

b. Existing Environment (to be provided by Designers)

   Original drawings

c. Contract Details (to be provided by CA/PD)

   Contract commencement, date of PC, end of DLP, Certificate of Practical Completion

d. Design Information (to be provided by Designers (including Contractor's Designers)

   Specification details, as built drawings, finishes and colour schedules, structural calculations, key structural principals and any relevant design criteria

e. Project Participants (to be provided by Principal Contractor)

   List of all domestic and named sub-contractors, including all direct named contractors

f. Mechanical (to be provided by Principal Contractor)

   As installed drawings, system description, schedule of equipment/suppliers, manufacturer's O&M information, H&S information, test commissioning and inspection certificates.

g. Electrical (to be provided by Principal Contractor)

   As installed drawings, system description, schedule of equipment/suppliers, manufacturer's O&M information, H&S information, test commissioning and inspection certificates.

h. Fire and Emergency (to be provided by Designers and Principal Contractor)

   Fire strategy drawings, fire retardancy certificates for fabrics.

i. Product Information (to be provided by Principal Contractor)

   Product data sheets for materials requiring a COSHH assessment.

j. Residual Hazards (to be provided by Designers and Principal Contractor)

   Residual hazards left on completion of the works, details of any demolition hazards left on completion of the works.

k. Maintenance Instructions (to be provided by the Principal Contractor)

   Maintenance instructions for equipment, fixtures and fittings and finishes; information regarding the removal of and dismantling of installed plant and equipment; health and safety information relating to cleaning or maintaining the structure.

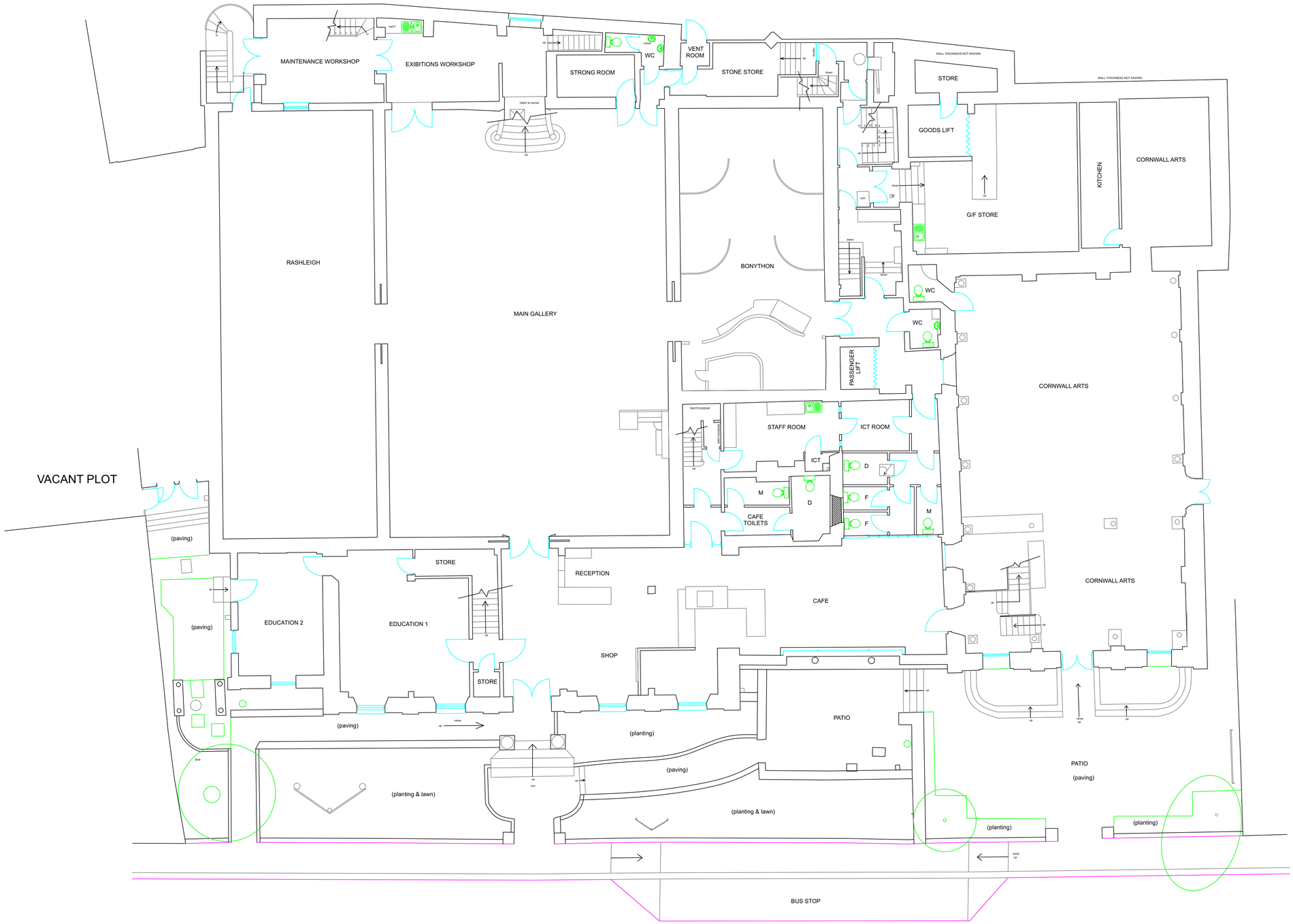
Appendix A

FLOOR PLANS HAVE BEEN PRODUCED FOR THE ROYAL INSTITUTION OF CORNWALL TO A PRE-DETERMINED SPECIFICATION.

WHERE CRITICAL DIMENSIONS ARE REQUIRED, ALWAYS MEASURE ON SITE.

WHEREVER POSSIBLE, THE LINES OF WALLS, DOORS, WINDOWS etc. HAVE BEEN TAKEN AT 1.5m AFFL TO INDUSTRY STANDARDS.

SMT ASSOCIATES RETAIN THE ORIGINAL COPY OF DRAWINGS AND ANY ALTERATIONS OR UPDATES SHOULD BE PASSED TO SMT ASSOCIATES ELECTRONICALLY FOR UPDATING.



DO NOT SCALE
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No	Description	Date	Signed
B	Z co-ords set to zero	26/06/09	JD
A	Additional information & update	05/06/09	JD
0	Original	15/02/08	JD

Revisions

Client: ROYAL INSTITUTION OF CORNWALL

Title: ROYAL CORNWALL MUSEUM
RIVER STREET
TRURO
TR1 2SJ

Drawing: FLOOR PLANS
LEVEL 1 - ENTRANCE

Surveyed	Drawn	Approved
JAN_08	JD	SMT
Date: 15.02.08	Scale: 1:100	Sheet: 1

Drawing No. SMT652/102

SMT ASSOCIATES
Chartered Building Surveyors
&
Historic Building Consultants
Tel (01872) 260798

FLOOR PLANS HAVE BEEN PRODUCED FOR THE ROYAL INSTITUTION OF CORNWALL TO A PRE-DETERMINED SPECIFICATION.

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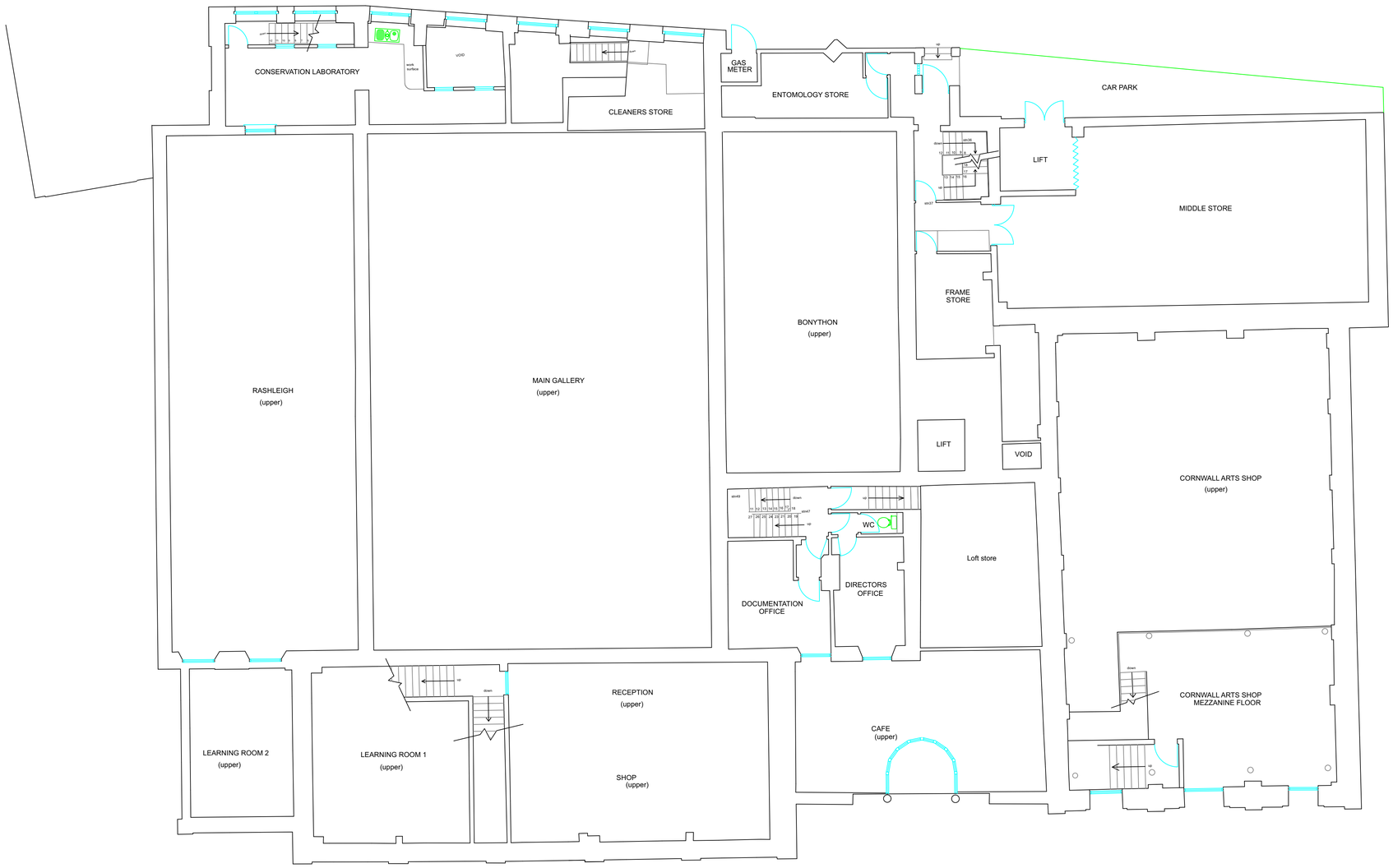

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No.	Description	Date	Signed
B	Z co-ords set to zero	25/09/09	JD
A	Additional information & update	05/05/09	JD
0	Original	15/02/08	JD

Revisions

Client: ROYAL INSTITUTION OF CORNWALL

Title: ROYAL CORNWALL MUSEUM
RIVER STREET
TRURO
TR1 2SJ

Drawing: FLOOR PLANS
LEVEL 2

Surveyed	JAN_08	Drawn	JD	Approved	SMT
Date	15.02.08	Scale	1:100	Sheet	1

Drawing No. SMT652/103

SMT ASSOCIATES
Chartered Building Surveyors
&
Historic Building Consultants
Tel (01872) 260798

FLOOR PLANS HAVE BEEN PRODUCED FOR THE ROYAL INSTITUTION OF CORNWALL TO A PRE-DETERMINED SPECIFICATION.

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WHEREVER POSSIBLE, THE LINES OF WALLS, DOORS, WINDOWS etc. HAVE BEEN TAKEN AT 1.5m AFFL TO INDUSTRY STANDARDS.

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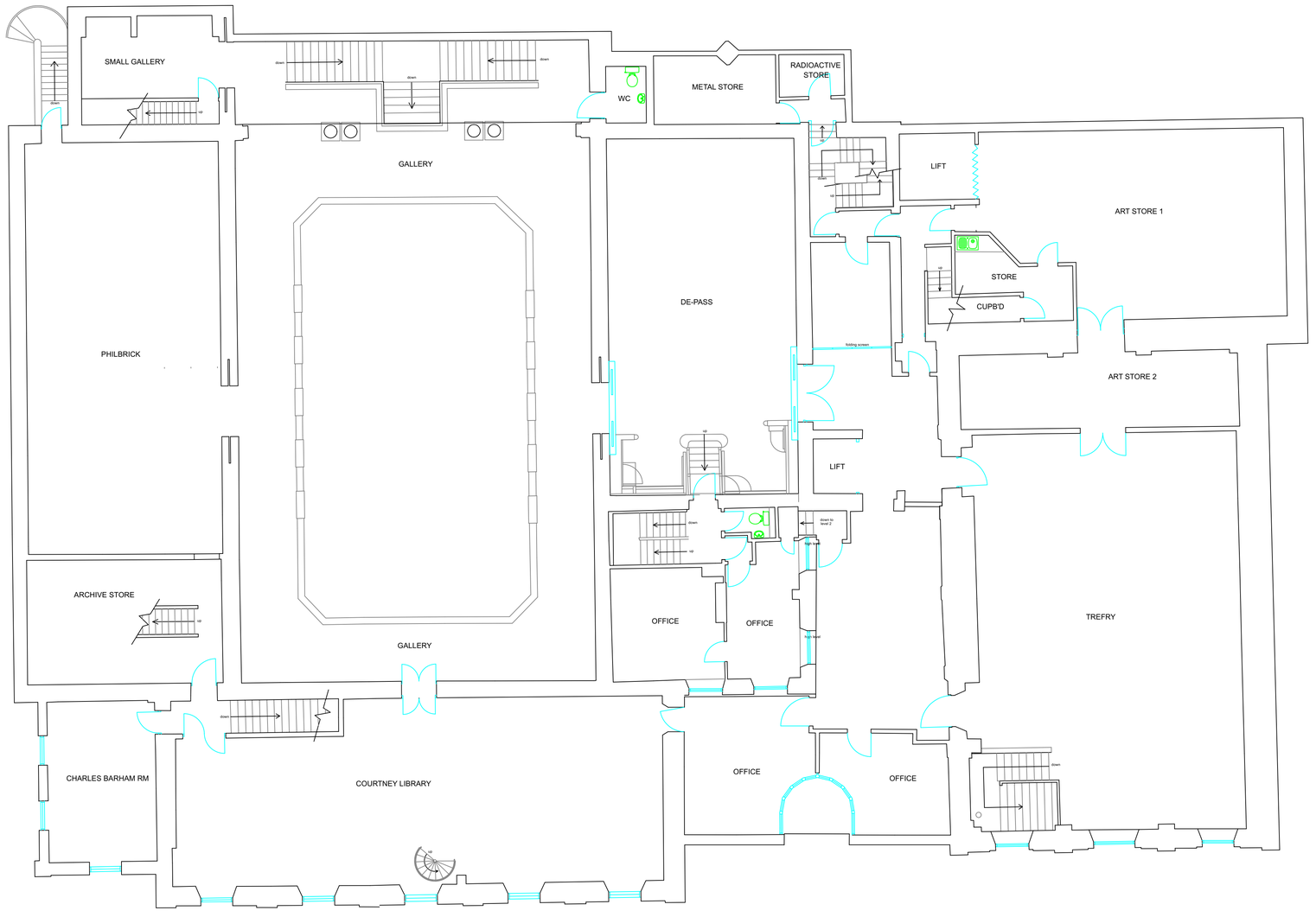

DO NOT SCALE
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No.	Description	Date	Signed
B	Z co-ords set to zero	25/06/09	JD
A	Additional information & update	05/06/09	JD
0	Original	15/02/08	JD

Revisions

Client: ROYAL INSTITUTION OF CORNWALL

Title: ROYAL CORNWALL MUSEUM
RIVER STREET
TRURO
TR1 2SJ

Drawing: FLOOR PLANS
LEVEL 3 - UPPER GALLERIES

Surveyed	Drawn	Approved
JAN_08	JD	SMT
Date	Scale	Sheet
15.02.08	1:100	1

Drawing No. SMT652/104

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Chartered Building Surveyors
&
Historic Building Consultants
Tel (01872) 260798

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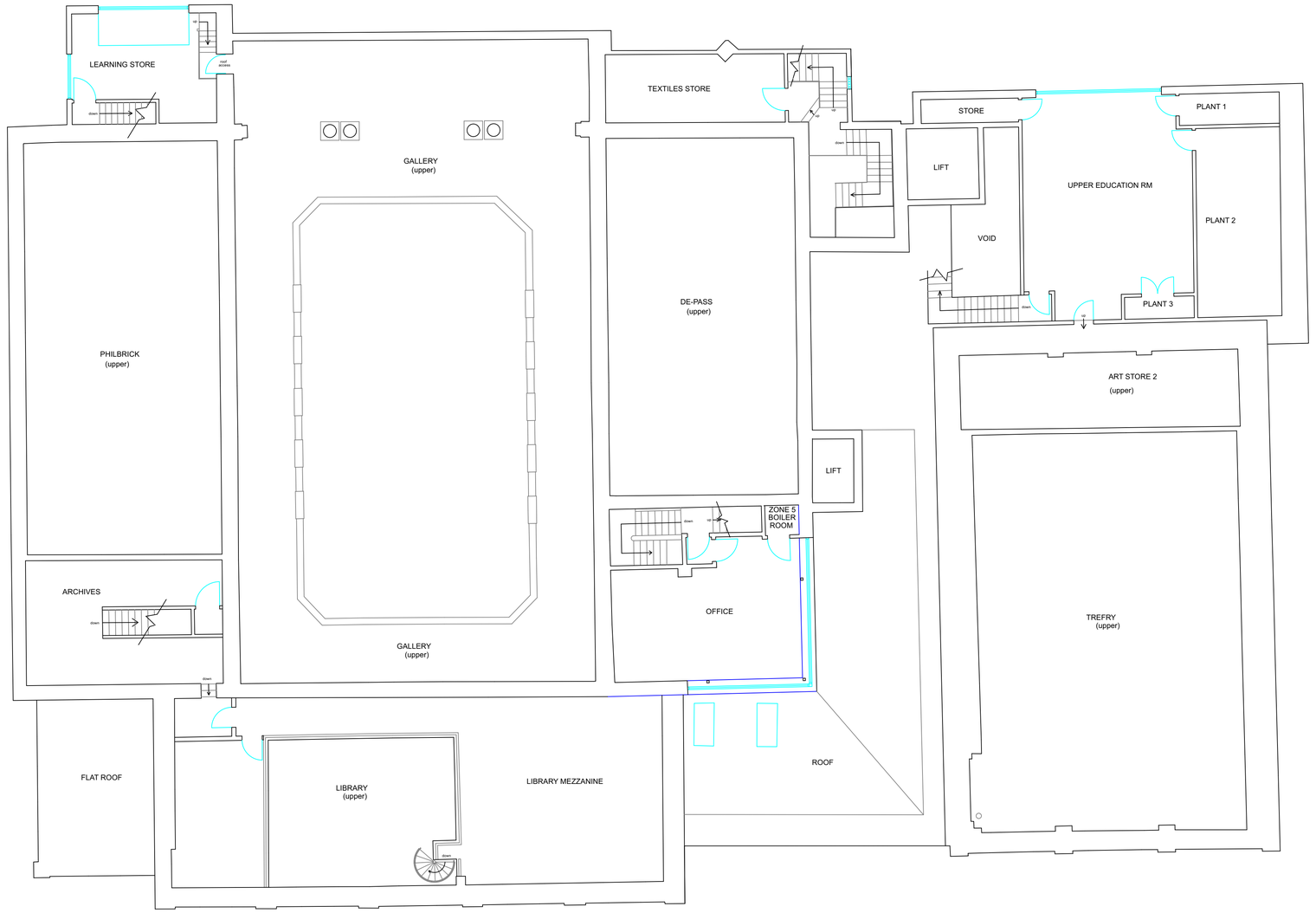

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No.	Description	Date	Signed
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A	Additional information & update	05/06/09	JD
0	Original	15/02/08	JD

Revisions

Client: ROYAL INSTITUTION OF CORNWALL

Title: ROYAL CORNWALL MUSEUM
RIVER STREET
TRURO
TR1 2SJ

Drawing: FLOOR PLANS
LEVEL 4

Surveyed	Drawn	Approved
JAN_08	JD	SMT
Date	Scale	Sheet
15.02.08	1:100	1

Drawing No. SMT652/105

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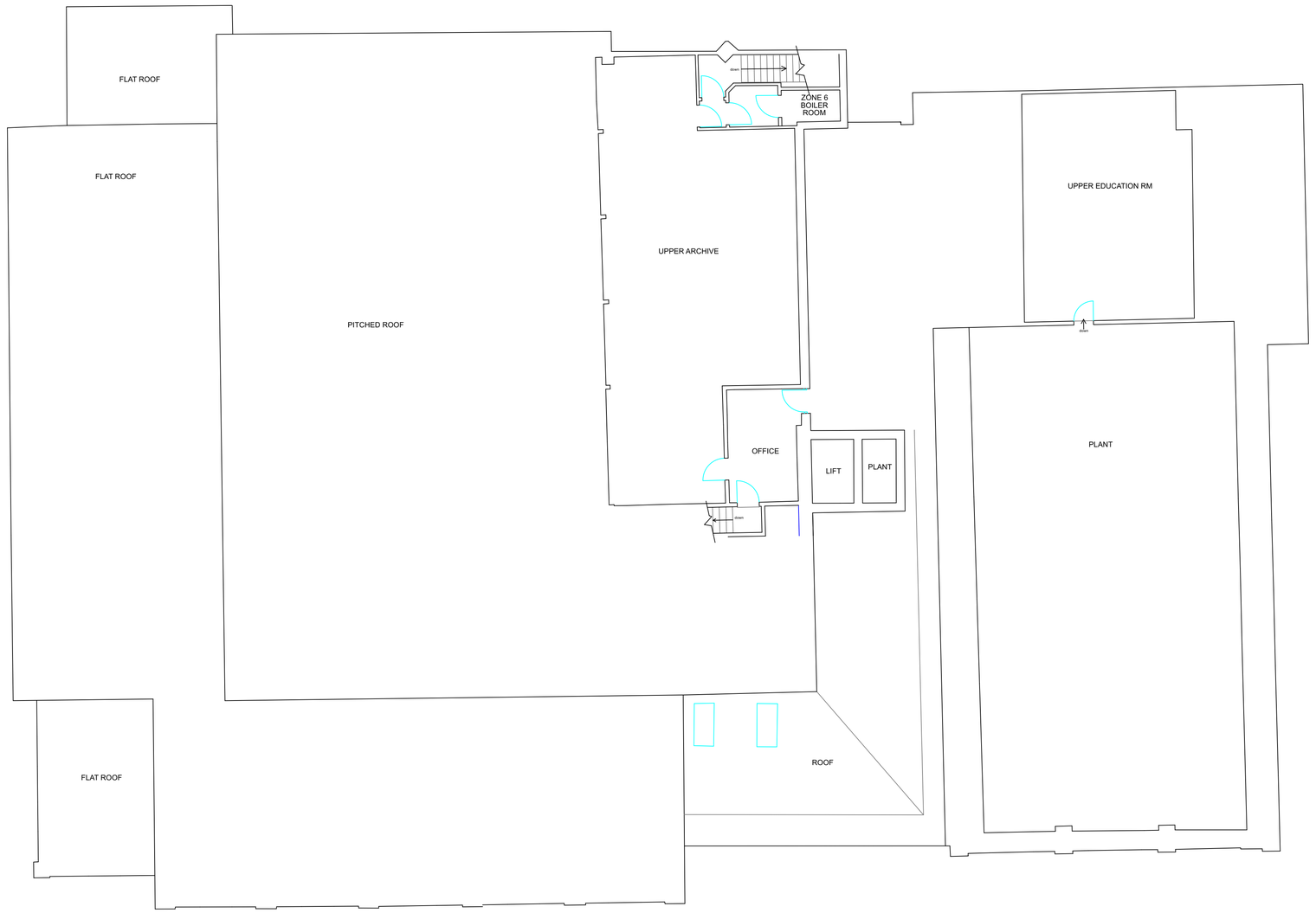
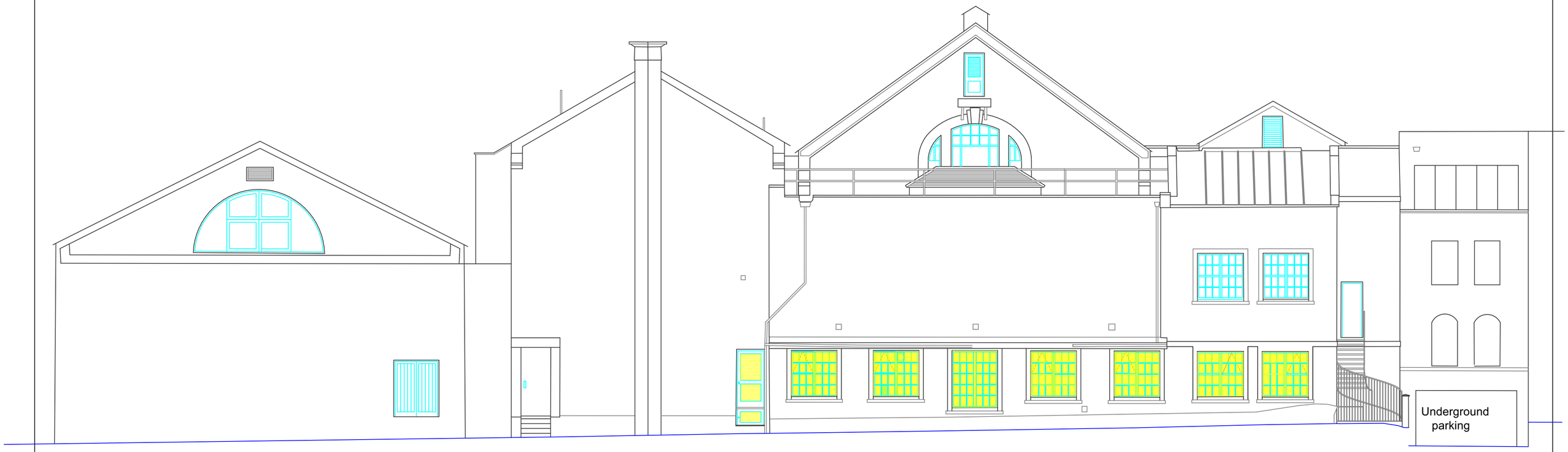

FLAT ROOF
FLAT ROOF
PITCHED ROOF
UPPER ARCHIVE
ZONE 6
BOILER
ROOM
UPPER EDUCATION RM
OFFICE
LIFT
PLANT
PLANT
FLAT ROOF
ROOF



4.0

Royal Cornwall Museum

Elizabeth House

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No.	Description	Date	Signed
0	Original	03.03.08	JD

Revisions

Client: ROYAL INSTITUTION OF CORNWALL

Title:
ROYAL CORNWALL MUSEUM
RIVER STREET
TRURO, TR1 2SJ

Drawing:
EXISTING SOUTH ELEVATION
FRONT - RIVER STREET)

Surveyed	Drawn	Approved
FEB_08	JD	SMT
Date	Scale	Sheet
03.03.08	1:100	1

Drawing No. SMT652/107

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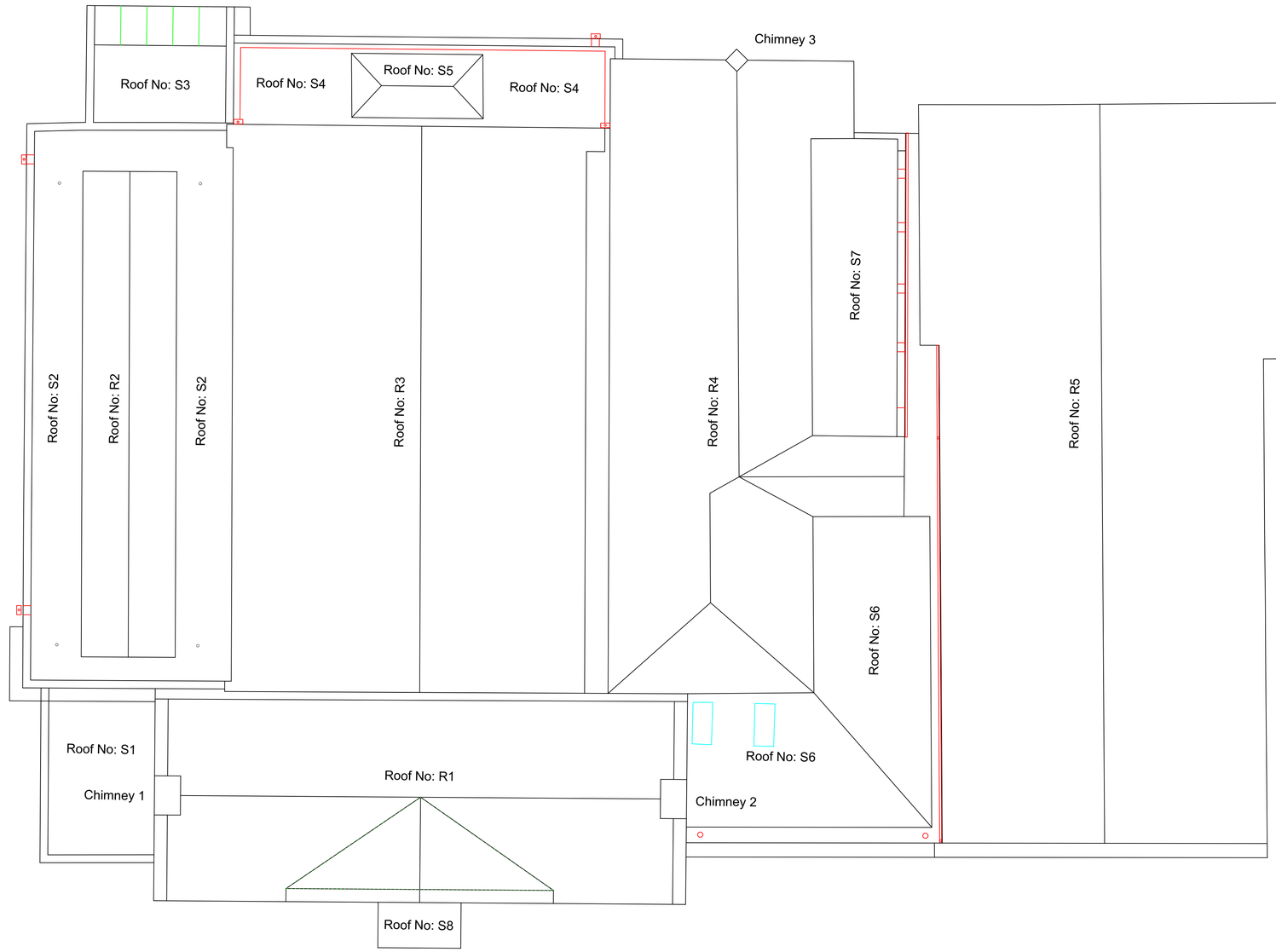

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No.	Description	Date	Signed
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A	Additional information & update	05/06/09	JD
0	Original	15/02/08	JD

Revisions

Client: ROYAL INSTITUTION OF CORNWALL

Title: ROYAL CORNWALL MUSEUM
RIVER STREET
TRURO
TR1 2SJ

Drawing: FLOOR PLANS
LEVEL 1 - ENTRANCE

Surveyed: JAN_08	Drawn: JD	Approved: SMT	
Date: 15.02.08	Scale: 1:100	Sheet: 1	

Drawing No.: SMT652/102

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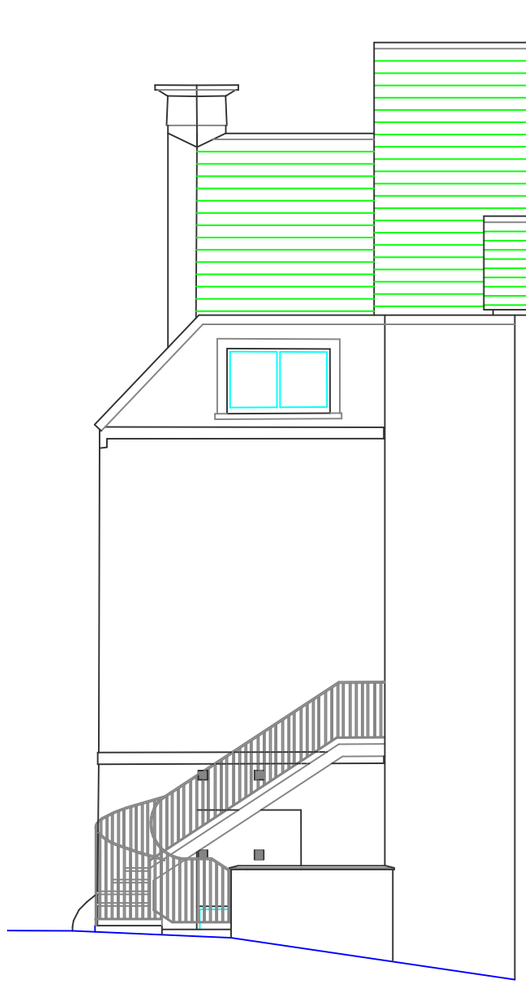


Elizabeth House

Vacant Plot

Client:

Title:

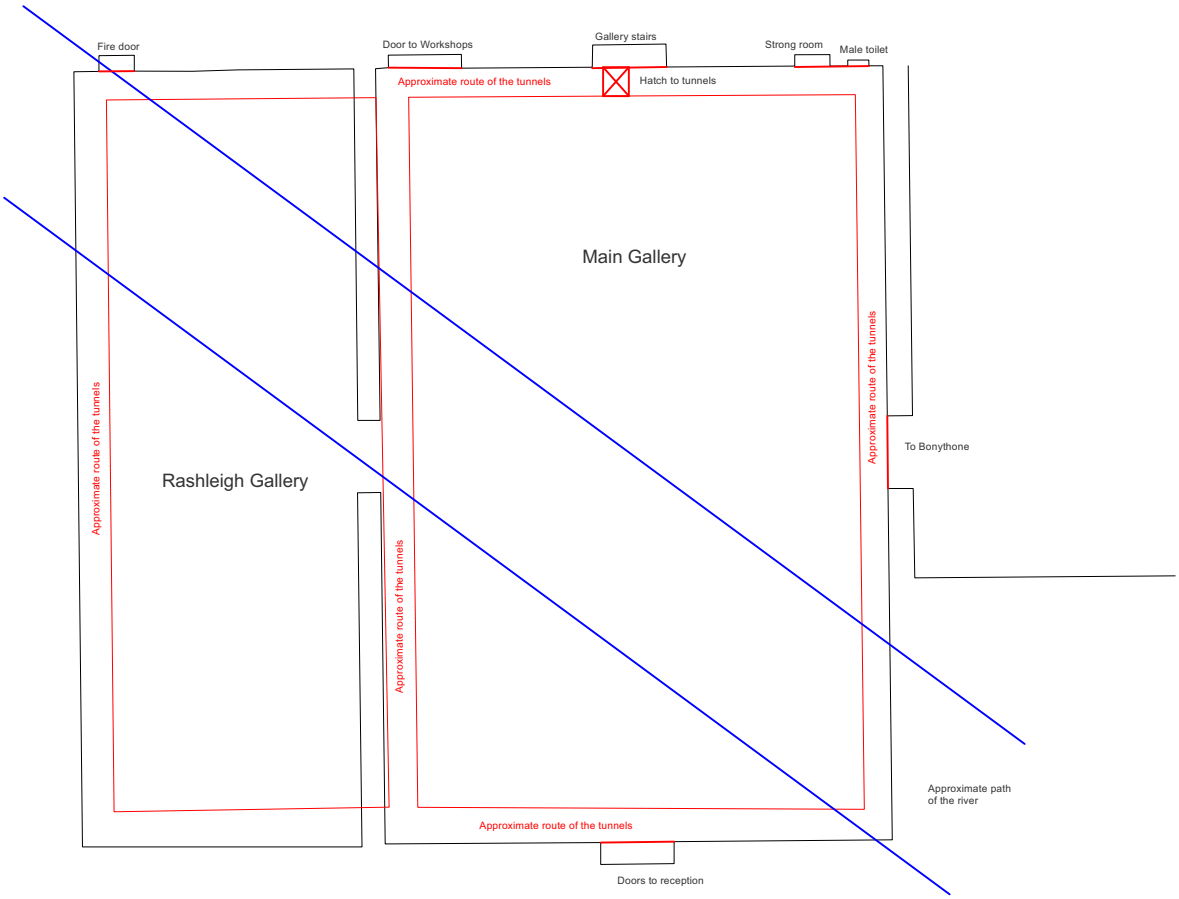
Drawing:

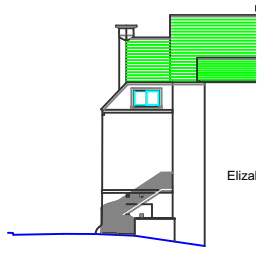
No.	Description	Date	Signed
0	Original	03.03.08	JD

Revisions

Surveyed	FEB_08	Drawn	JD	Approved	
Date	03.03.08	Scale	1:100	Sheet	1

Drawing No.


Fire door
Door to Workshops
Gallery stairs
Strong room
Male toilet
Approximate route of the tunnels
Hatch to tunnels
Main Gallery
Approximate route of the tunnels
To Bonythone
Rashleigh Gallery
Approximate route of the tunnels
Approximate route of the tunnels
Approximate path
of the river
Approximate route of the tunnels
Doors to reception


Eliza

Appendix B

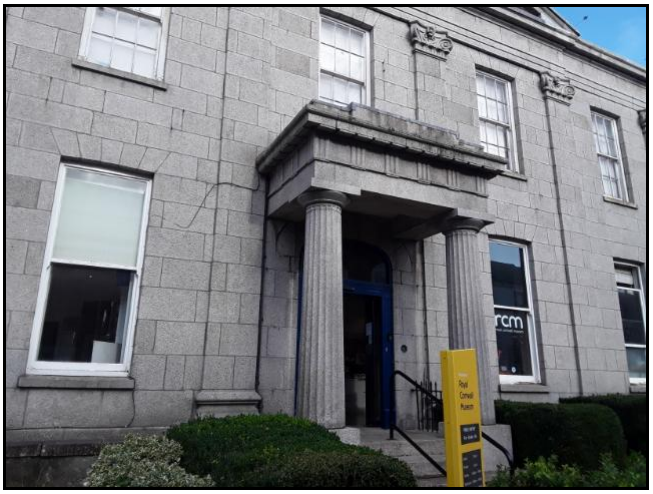
Refurbishment Survey

Survey Reference Number: L-29909RV1

Survey Date: 06 November 2023 & 21 December 2023

Client Specified Areas

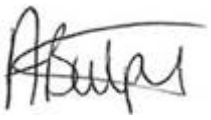
Royal Cornwall Museum
25 River Street
Truro
Cornwall
TR1 2SJ



Address Allium Environmental Ltd, Baldhu House, Wheal Jane Earth Science Park, Baldhu, Truro, TR3 6EH
Company Reg No. 09391161
Tel: 01872 276375
Email: enquiries@allium.uk.net

Report Authorised by

Name: Amy Bulpin

Signed: 

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Allium Environmental Ltd wish to advise our client(s) that no obligation (actual, assumed or otherwise) may be placed upon the client, for further work related to the recommendation from this report.

Please note Allium Environmental Ltd cannot be held responsible for the way in which the client may interpret or act upon the results of the report. This report must be read in its entirety including any appendices. Allium Environmental Ltd accepts no responsibility for sub-division of this report.

No responsibility can be taken for any misinterpretation of this report by third parties.

Table of Contents

Section 1.0: Executive Summary

This report has been revised to include the phase 2 works to the roof and rainwater goods at the request of the client.

An Asbestos Refurbishment Survey was carried out in accordance with in-house asbestos surveying procedures and HSE guidance documentation *HSG 264: Asbestos: The Survey Guide* to the client specified areas at Royal Cornwall Museum.

The Survey was carried out by Allium Environmental Ltd on behalf of Jackie George on 06 November 2023 & 21 December 2023.

The purpose of this survey was to locate as far as reasonably practicable the presence and extent of all suspected Asbestos Containing Materials (ACMs) in the building survey area which could be damaged or disturbed during planned refurbishment activities.

During the survey 7 samples were taken for analysis.

A Refurbishment Survey aims to locate all ACMs within the survey area. There is no requirement to assess the condition or 'Priority' information for management purposes. This is because it is presumed that all ACMs found will be removed as part of the planned refurbishment works. However, should any material remain in situ or if the related works are not undertaken then all ACMs identified should be re-assessed and managed in accordance with the recommended action set out in HSG 264 or CAR 2012. To manage the risk from ACMs, it is the Duty Holder's responsibility to keep and maintain an up-to-date record of the location, condition, maintenance and removal of all ACMs on the premises. If there is a risk of exposure due to the condition or location of the ACMs then they should be repaired, encapsulated and labelled, or removed. It is the responsibility of the Duty Holder to maintain ACMs in a good state of repair and regularly monitor the condition; the Duty Holder should inform anyone who is liable to disturb the ACMs about their location and condition.

Item No.	Building Name	Room No. & Name	Asbestos Containing Product	Recommended Action	Risk
6	Royal Cornwall Museum	External	Cement Debris - Roof	Restrict Access & Remove	Low
9	Royal Cornwall Museum	External	Cement Roof Tiles - Roof	Remove if affected by proposed refurbishment works	Very Low

Inaccessible areas encountered during the time of the survey, for which no information was obtained, along with areas where access was limited:

Item No.	Building Name	Room No. & Name	Restriction
2	Royal Cornwall Museum	Ground Floor, 001 - Mineral Gallery	Limited access behind timber boxing to wall due to stored items
4	Royal Cornwall Museum	External	No access gained to soffits external of office due to safety restrictions.
7	Royal Cornwall Museum	External	No access gained to South elevation of roof due to safety restrictions.

Item No.	Building Name	Room No. & Name	Restriction
11	Royal Cornwall Museum	External	No access to ceiling soffit over main entrance due to safety restrictions.
12	Royal Cornwall Museum	External	No access to soffits/fascias over cafe windows due to safety restrictions.
13	Royal Cornwall Museum	External	No access to soffits/fascias at rear elevation due to safety restrictions.

Section 2.0: Introduction

Allium Environmental Ltd was instructed by Jonathan Morton of Jackie George to undertake an Asbestos Refurbishment Survey to ascertain the presence of any Asbestos Containing Materials (ACMs) within: Royal Cornwall Museum.

The site consists of:

- Mid 1800s stone built building with a pitched roof

The survey was carried out on 06 November 2023 by Bryan Read and on 21 December 2023 by Hadyn Veale of Allium Environmental Ltd.

Section 2.1: Survey Scope

The scope of the survey as defined by Jackie George is to carry out a Refurbishment Survey to the client specified areas within Royal Cornwall Museum:

- Areas included in the survey:
  - All areas affected by the proposed refurbishment works to the mineral gallery only within Royal Cornwall Museum were included in the survey.

- Agreed areas of exclusion from the survey scope:
  - All other areas of Royal Cornwall Museum were excluded from the survey.

Section 2.2: Limitations

During the course of the survey all reasonable efforts were made to identify the presence of Asbestos Containing Materials within the surveyed areas. However, Asbestos Containing Materials (ACMs) are sometimes concealed within the fabric of a building or sealed building voids, and so it is not always possible to regard the findings of a survey as being definitive. Therefore, it must always remain a possibility that further Asbestos Containing Materials may be found during any alterations, refurbishment or demolition works. Asbestos Containing Materials (ACMs) may be hidden within the fabric of a building and may not be visible until the building is dismantled; it is therefore recommended that a complete review of the Asbestos register is undertaken before commencement of any works. Where areas have been identified as inaccessible within the report, it indicates that the area specified was not accessible to the surveyor at the time of the inspection either because such areas were locked despite requests for access to be arranged, or to gain entry would require an unreasonable degree of dismantling to the structure of the building. The client is therefore advised to the possibility of there being Asbestos Containing Materials in such areas.

HSE guidance: HSG 264: Asbestos: the survey guide states it is now recognised that even with 'complete' access demolition surveys, all ACMs may not be identified and this only becomes apparent during demolition itself. Therefore in buildings that are occupied, due to be re-occupied or due to extenuating circumstances, following the completion of the survey it may be required to undertake additional inspections or sampling prior to/during proposed refurbishment works to account for all hidden Asbestos Containing Materials (ACMs). Where this is likely a provision may need to be made to allow for a possible revisit, this may include inaccessible areas that will be listed in this report.

- Inaccessible areas encountered during the survey:
  - 2 - Ground Floor, 001 - Mineral Gallery , Limited access behind timber boxing to wall due to stored items
  - 4 - External, No access gained to soffits to external of office due to safety restrictions.
  - 7 - External, No access gained to South elevation of roof due to safety restrictions.
  - 11 - External, No access to ceiling soffit over main entrance due to safety restrictions.
  - 12 - No access to soffits/fascias over cafe windows due to safety restrictions.
  - 13 - No access to soffits/fascias at rear elevation due to safety restrictions.

- Agreed Variations or Deviations from the standard HSG 264 method:
  - Intrusions were kept to a minimum due to continued use of the premises.

Section 2.3: Details

Site Address:

- Royal Cornwall Museum, 25 River Street, Truro, Cornwall, TR1 2SJ

Client Name & Address:

- Jackie George

Client Contact:

- Jonathan Morton

Survey Start Date:

- 06 November 2023

Survey Completion Date:

- 21 December 2023

Survey Conducted by:

- Bryan Read
- Hadyn Veale

Assisted by:

- N/A

Report Produced:

- 21 December 2023

Section 2.4: Survey Type

The nature of the survey is a Refurbishment Asbestos Survey as detailed in HSE publication: *HSG 264 Asbestos: The Survey Guide.* HSE guidance publication *HSG 264: Asbestos: The Survey Guide* describes a Refurbishment survey as a fully intrusive survey. A full sampling programme is undertaken to identify possible ACMs and estimates of volume and surface area made. A Refurbishment survey is required for all work which disturbs the fabric of the building in areas where the management survey has not been intrusive.

This report presents the findings of the survey and analysis reports of any bulk samples taken.

Section 3.0: Survey Method

Allium Environmental Ltd conducts Refurbishment surveys in accordance with our in-house Asbestos Surveying procedures and HSE guidance publication *HSG 264: Asbestos: The Survey Guide.* While the survey is fully intrusive, disruptive and non-destructive, it may involve penetrating all parts of the building structure, using aggressive inspection techniques to lift carpets and tiles, break through walls, ceilings cladding and partitions, and open up floors.

A Refurbishment survey uses a combination of visual inspection and bulk sampling to confirm the presence of Asbestos. Any area(s) inaccessible at the time of the survey must be presumed to contain Asbestos, and any inaccessible area(s) must have access restricted, and should be inspected prior to access or the commencement of any works.

Any samples collected during the survey will be analysed in-house to ISO/IEC 17025 for the identification of Asbestos fibres in bulk samples, and in accordance with HSE guidance note: *HSG 248: The Analysts' guide for sampling analysis and clearance procedures and best practice* or subcontracted to an approved independent laboratory, which is also UKAS accredited to ISO/IEC 17025 for the identification of Asbestos fibres in bulk samples, and in accordance with HSE guidance note*: HSG 248: The Analysts' guide for sampling analysis and clearance procedures and best practice*. Where applicable and where samples are sub-contracted this will be clearly displayed on the bulk sample test report and within the survey report. Completed Fibre Identification Report for all samples taken can be found in Appendix 2. (Representative samples were also taken of any materials that may be mistaken for potential ACMs). Sampling location stickers, bearing the individual samples unique identification number, have been applied to all sample points where practicable, for future reference.

Products that are very unlikely to contain Asbestos were not sampled (e.g. wallpaper, plasterboard, chipboard, wood etc.).

An item record is completed for each suspect sample taken; for materials strongly presumed to contain Asbestos (i.e. materials visually similar to positively identified ACMs); for areas presumed to contain Asbestos (i.e. areas where no access could be gained at the time of the survey; and non-accessed items of (electrical) equipment and plant).

Each item record contains a colour photograph, individual material assessment scores (as prescribed under HSG 264), management recommendations and general observations / comments (where appropriate).

The item records are combined together to form a site-specific Asbestos Register.

Section 4.0: General Comments

This report relates to the situation on the day(s) of the inspection and cannot take into account subsequent changes in circumstances. Samples were taken of any materials historically known or presumed to contain Asbestos. This report contains findings based upon visual inspection and results of laboratory analysis

All figures and measurements quoted in the Asbestos Register detailing the extent of ACMs are estimates, based upon visual inspection on the day of the survey and should be used as a guide. It is the responsibility of contractors quoting for Asbestos Removal Works to take their own measurements to determine the exact extent of Asbestos to be removed. Unless otherwise stated pipework insulation and heating plant was not inspected in their entirety. Representative samples were taken at random intervals where suspect material was observed. The scope of the works did not permit complete exposure and assessment of all pipework and heating plant.

No responsibility can be taken for any misinterpretation of this report by third parties.

A limited inspection of pipework concealed by overlying non-Asbestos insulation has been conducted. Inspection of pipework has been restricted primarily to insulation visible. The presence of Asbestos debris to pipework, which is not readily visible or would require the full removal and replacement of overlying insulation, has therefore not been investigated.

No responsibility will be accepted for the presence of Asbestos in voids (under floor, or behind wall or ceiling) or pipework ducts other than those opened up during the survey.

The survey is limited to those areas accessed at the time of the survey.

We have not reported on concealed spaces, which may exist within the fabric of the building, and where the extent and presence of these is not evident, due to inaccessibility or insufficient knowledge of the structure at the time of the survey.

Due to the nature and variety of Asbestos used in building construction and the complex nature of some buildings, especially where modified over the years, it is possible that some ACMs may not have been identified in the survey. Where refurbishment is to follow a refurbishment Survey, it would be prudent in any contract to allow a contingency sum to provide for such possibility.

Section 4.0: General Comments (Continued)

Certain 'Artex' type textured coatings and decorative plasters may contain very small quantities of Asbestos. In situ, these coatings are often composed of different batches of product, or may have been repaired / patched at different times. It is therefore possible that any 'Artex' samples taken may not be representative of the entire coating. Recent research suggests that in some cases, the fibres may have diameters below 0.1 um. These may not be visible by the optical microscopy method described in HSE guidance publication HSG 248: Asbestos: The Analysts' Guide for Sampling, Analysis and Clearance Procedures.

At the time of the survey no access was gained to materials and/or void areas located above, behind or attached to suspect Asbestos Containing Materials sampled or presumed throughout the site. To do so would have required surveyors to break through suspect ACMs, such as textured coating and insulating board, potentially contaminating themselves and the work area with Asbestos. Therefore, it is recommended that site operatives are made aware of this survey limitation, and instructed to exercise caution when breaking through materials and/or areas located above, behind or attached to suspect ACMs that have been found to contain Asbestos following laboratory analysis.

Section 5.0: Terminology

Asbestos – A term used for the fibrous form of several naturally occurring silicate minerals, used primarily because of its low thermal conductivity, high tensile strength, resistance to chemical attack, flexibility and incombustibility. *The Control of Asbestos Regulations 2012* defines and regulates asbestos as the fibrous forms of the following minerals or any mixture containing them. "Asbestos" means the following fibrous silicates;

Chrysotile (White Asbestos)
Crocidolite (Blue Asbestos)
Fibrous Grunerite - *commonly known as Amosite* (Brown Asbestos)
Fibrous Tremolite
Fibrous Anthophyllite
Fibrous Actinolite

ACM(s) - Asbestos Containing Material(s). Any material, substance or product that contains or has been made with Asbestos.

SPTCA - Strongly Presumed To Contain Asbestos.

PTCA - Presumed To Contain Asbestos.

NAD - No Asbestos Detected.

AD - Asbestos Detected.

Section 5.1: Material Assessment Score Algorithm & Risk rating

Sample Variable	Score	Example of Scores
Product Type (including debris from product)	1	Asbestos-Reinforce Composite (Plastic, Resin, Mastic, Roofing Felts, Vinyl Floor Tiles, Semi-Rigid Paints or Decorative Finishes, Asbestos Cement)
	2	Asbestos Insulating Board (AIB), Millboards, Other Low-Density Insulating Boards, Asbestos Textile, Gasket, Ropes and Woven Textile, Asbestos Paper and Felt
	3	Thermal Insulation (e.g. Pipe and Boiler Lagging), Sprayed Asbestos, Loose Asbestos, Asbestos Mattresses and Packing.
Extent of damage/deterioration	0	Good condition: no visible damage
	1	Low damage: a few scratches or surface marks, broken edges on board, tiles etc.
	2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose fibres.
	3	High damage or delamination of materials, Sprays and Thermal Insulation. Visible Asbestos debris
Surface treatment	0	Composite materials containing Asbestos: Reinforced Plastic, Resins, Vinyl Tiles.
	1	Enclosed Sprays and Lagging, AIB (with exposed face painted or encapsulated), Asbestos Cement Sheets etc.
	2	Unsealed AIB, or encapsulated Lagging and Sprays.
	3	Unsealed Lagging and Sprays.
Asbestos type	1	Chrysotile
	2	Amphibole (Amosite) Asbestos excluding Crocidolite
	3	Crocidolite

Potential to release Asbestos Fibres

- Materials with an assessment score of 10 or more are deemed to have a high risk and potential to release fibres, if subject to minor disturbance, e.g. walking in the vicinity of the material.
- Materials with an assessment score between; 7-9 are deemed to have a medium risk and potential to release fibres.
- Materials with an assessment score between; 5-6 are deemed to have a low risk and potential to release fibres.
- Materials with an assessment score of 4 or less are deemed to have a very low risk and potential to release fibres.

Section 5.2: Recommended Actions Explained

Monitor Condition - This material can stay in situ and be managed accordingly. Monitor condition regularly and record condition.

Label - Label the ACM with approved warning signs

Encapsulate - Use suitable encapsulating material to seal surface. Work with this material to be carried out in accordance with HSE Publication: *The Control of Asbestos Regulations 2012.*

Repair - This material requires repair. Work with this material to be carried out in accordance with HSE Publication: *The Control of Asbestos Regulations 2012.*

Restrict Access - Restrict access to area and communicate with employees, contractors and others to keep area free from personnel. Work with this material to be carried out in accordance with HSE Publication: *The Control of Asbestos Regulations 2012.*

Protect/Enclose - Use suitable material to protect / enclose ACM to minimise risk of impact damage.

Remove if Affected - If this material is likely to be disturbed by/during the proposed refurbishment works then material will need to be removed prior to work commencing. Work with this material to be carried out in accordance with HSE Publication: *The Control of Asbestos Regulations 2012.*

Remove - This material requires removal. Work with this material to be carried out in accordance with HSE Publication: *The Control of Asbestos Regulations 2012.*

No Access/Exercise Caution - Surveyors were unable to obtain access to material, item, room, area or building to conduct inspection for potential ACMs. Therefore, the area is assumed to contain Asbestos and the Duty Holder should exercise caution.

Please Note:

- Allium Environmental Ltd cannot be held responsible for the way in which the client may interpret or act upon the results of this report.
- Please refer to HSE Publication: *The Control of Asbestos Regulation 2012* prior to undertaking any remedial works on ACMs.
- In some instances more than one recommendation may be used.

Section 6.0: Survey Findings & Room Construction

Please note

- Where areas were inspected and no ACMs were identified or presumed an entry has been placed into the report findings stating “No Asbestos Detected” within the respective area.

Room/Area Name & No: 001 - Mineral Gallery
Floor: Ground Floor
Building: Royal Cornwall Museum

Room Construction / Description			
Ceiling	Lath and Plaster	Riser/Boxing	Limited Access Gained, Timber
Firebreak	N/A	Voids	N/A
Walls	Block, Plasterboard, Lath & Plaster	Pipework	Metal
Doors	Timber & Metal	Plant/Equipment	N/A
Windows/Sills	Metal, Putty	Staircases	N/A
Floor	Concrete, Felt, Timber	Other	N/A
Under Floor Ducts	N/A	Comments	

Positive Survey Findings - None Identified

No Access Areas

Reference	2	Product Type (A)	N/A	
Sample No	No Sample Taken	Condition (B)	N/A	
Description	Limited Access Gained - Boxing	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	Low	Material Score (A+B+C+D)	N/A	
Extent	4no.	Identification	**PTCA**	
Recommendation	Exercise Caution – See section 5.2			
Comments	Presumed to contain asbestos until proven otherwise. Limited access behind timber boxing to wall due to stored items			

Negative Survey Findings

Reference	1	Product Type (A)	N/A	
Sample No	29909/BR/001	Condition (B)	N/A	
Description	Felt - Floor	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	N/A	Material Score (A+B+C+D)	N/A	
Extent	160m²	Identification	**NAD**	
Recommendation	No Action			
Comments	Felt covering below timber flooring.			

Reference	3	Product Type (A)	N/A	
Sample No	29909/BR/002	Condition (B)	N/A	
Description	Putty - Windows/Sills/Skylights	Surface Treatment (C)	N/A	
Accessibility	Medium	Asbestos Type (D)	N/A	
Risk Rating	N/A	Material Score (A+B+C+D)	N/A	
Extent	2no.	Identification	**NAD**	
Recommendation	No Action			
Comments	Putty to metal window frames.			

Room/Area Name & No: Main Building
Floor: External
Building: Royal Cornwall Museum

Room Construction / Description			
Walls	Block	Ducts/Pipe Runs	Plastic
Cladding	Natural Slate, Metal	Ground	N/A
Roof	Cement Debris, No Access Gained, Cement Roof Tiles, Modern Felt, Natural Slate Tiles	Windows/Sills	UPVC & Timber
Rainwater Goods	Metal & Plastic	Soffit Fascia's	Insulating Board Panel, No Access Gained, Timber
Soil Stacks	Plastic	Staircases	N/A
Flues/Cowls	Metal & Plastic	Other	N/A
Plant/Equipment	N/A	Comments	Natural slate debris present.
Doors	Timber		

Positive Survey Findings

Reference	6	Product Type (A)	1	
Sample No	29909/HV/004	Condition (B)	3	
Description	Cement Debris - Roof	Surface Treatment (C)	1	
Accessibility	Low	Asbestos Type (D)	1	
Risk Rating	Low	Material Score (A+B+C+D)	6	
Extent	0.25m²	Identification	**AD**	
Recommendation	Restrict Access & Remove – See section 5.2			
Comments	Small piece on flat roof.			

Reference	9	Product Type (A)	1	
Sample No	29909/HV/006	Condition (B)	1	
Description	Cement Roof Tiles - Roof	Surface Treatment (C)	1	
Accessibility	Low	Asbestos Type (D)	1	
Risk Rating	Very Low	Material Score (A+B+C+D)	4	
Extent	300m²	Identification	**AD**	
Recommendation	Remove if affected by proposed refurbishment works – See section 5.2			
Comments	Quantity is an approximation.			

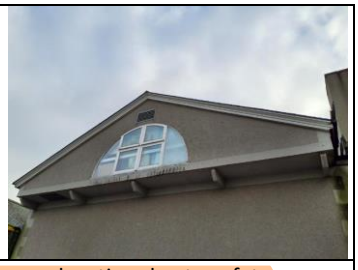
No Access Areas

Reference	4	Product Type (A)	N/A	
Sample No	No Sample Taken	Condition (B)	N/A	
Description	No Access Gained - Soffit	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	Low	Material Score (A+B+C+D)	N/A	
Extent	12lm	Identification	**PTCA**	
Recommendation	Exercise Caution – See section 5.2			
Comments	Presumed to contain asbestos until proven otherwise. No access gained to soffits external of office due to safety restrictions.			

Reference	7	Product Type (A)	N/A	
Sample No	No Sample Taken	Condition (B)	N/A	
Description	No Access Gained - Roof	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	Low	Material Score (A+B+C+D)	N/A	
Extent	500m²	Identification	**PTCA**	
Recommendation	Exercise Caution – See section 5.2			
Comments	Presumed to contain asbestos until proven otherwise. No access gained to South elevation of roof due to safety restrictions. No safe access point.			

Reference	11	Product Type (A)	N/A	
Sample No	No Sample Taken	Condition (B)	N/A	
Description	No Access Gained - Soffit	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	Low	Material Score (A+B+C+D)	N/A	
Extent	2m²	Identification	**PTCA**	
Recommendation	Exercise Caution – See section 5.2			
Comments	Presumed to contain asbestos until proven otherwise. No access to ceiling soffit over main entrance due to safety restrictions. To be sampled out of visiting hours.			

Reference	12	Product Type (A)	N/A	
Sample No	No Sample Taken	Condition (B)	N/A	
Description	No Access Gained - Soffit	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	Low	Material Score (A+B+C+D)	N/A	
Extent	8lm	Identification	**PTCA**	
Recommendation	Exercise Caution – See section 5.2			
Comments	Presumed to contain asbestos until proven otherwise. No access to soffits/fascias over cafe windows due to safety restrictions. To be sampled out of visiting hours. High level may not be accessible.			

Reference	13	Product Type (A)	N/A	
Sample No	No Sample Taken	Condition (B)	N/A	
Description	No Access Gained - Soffit	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	Low	Material Score (A+B+C+D)	N/A	
Extent	20lm	Identification	**PTCA**	
Recommendation	Exercise Caution – See section 5.2			
Comments	Presumed to contain asbestos until proven otherwise. No access to soffits/fascias at rear elevation due to safety restrictions. High level area would require road closure and use of MEWPS.			

Negative Survey Findings

Reference	5	Product Type (A)	N/A	
Sample No	29909/HV/003	Condition (B)	N/A	
Description	Insulating Board Panel - Soffit	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	N/A	Material Score (A+B+C+D)	N/A	
Extent	3m²	Identification	**NAD**	
Recommendation	No Action			
Comments	Above external door access.			

Reference	8	Product Type (A)	N/A	
Sample No	29909/HV/005	Condition (B)	N/A	
Description	Insulating Board Panel - Soffit	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	N/A	Material Score (A+B+C+D)	N/A	
Extent	12lm	Identification	**NAD**	
Recommendation	No Action			
Comments	To both gable ends of raised roof on flat roof section.			

Reference	10	Product Type (A)	N/A	
Sample No	29909/HV/007	Condition (B)	N/A	
Description	Cement Roof Tiles - Roof	Surface Treatment (C)	N/A	
Accessibility	Low	Asbestos Type (D)	N/A	
Risk Rating	N/A	Material Score (A+B+C+D)	N/A	
Extent	25m²	Identification	**NAD**	
Recommendation	No Action			
Comments	Replacement roof tiles in various locations. Quantity is an approximation.			

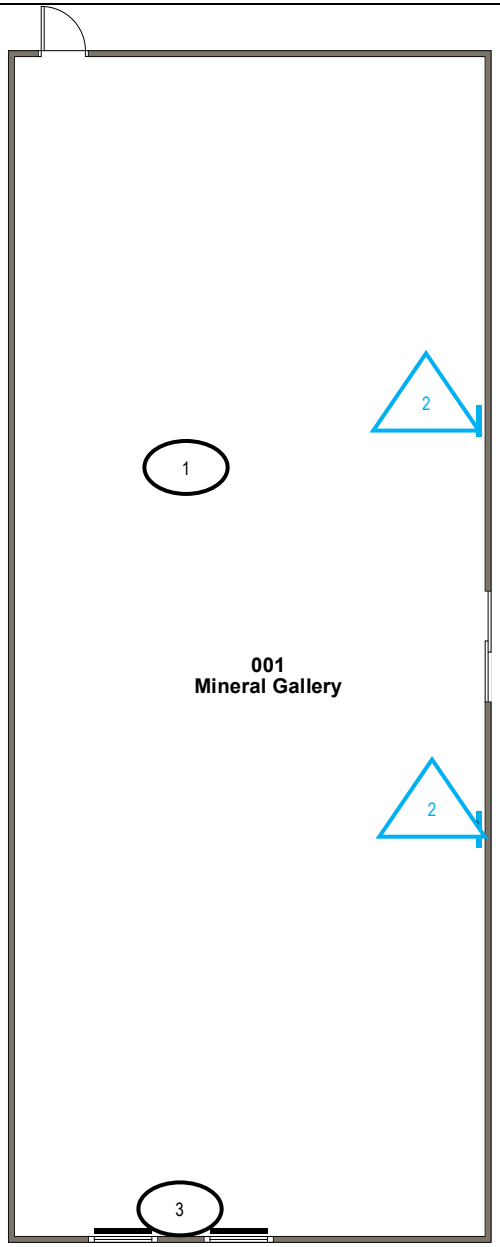
Allium CREATING SAFER SPACES

Site:	Royal Cornwall Museum 25 River Street Truro Cornwall TR1 2SJ
Building:	Circa mid 1800s stone built building with a pitched roof
Floor Level / Area:	Ground Floor
Ref No & Plan No:	L-29909RV1 Page 1 of 2

KEY

Positive ACMs /items	
Non Asbestos / Negative ACMs	
No Access / Limited Access	
Areas excluded from the survey	

Please note:
Where provided floor plans should be regarded as sketch-plans and for identification purposes only. They are intended to provide a visual appreciation of the buildings surveyed, showing locations of suspected ACMs, areas of no access and where samples were taken.



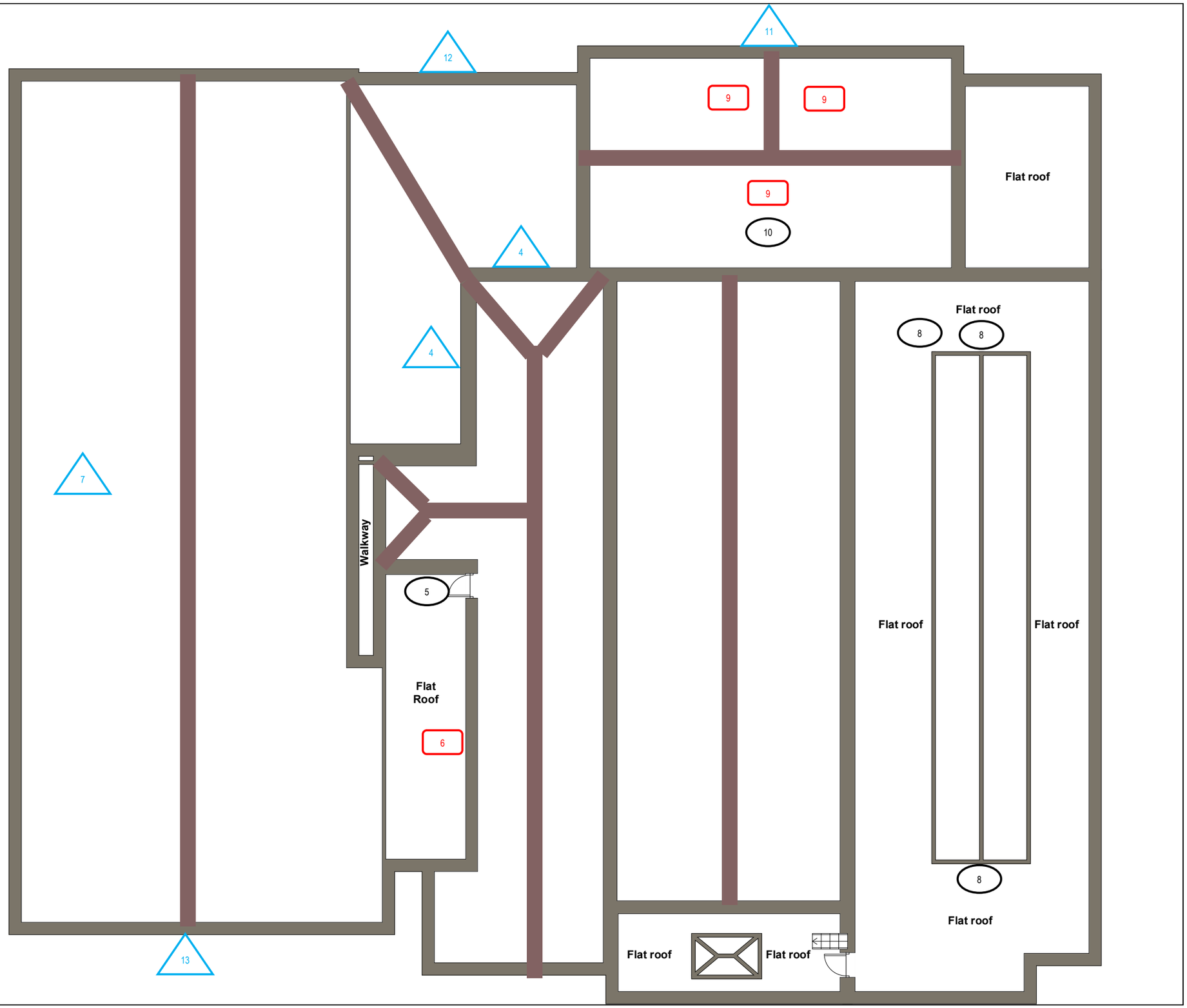
- **THIS PLAN SHOULD BE READ IN CONJUNCTION WITH THE MAIN BODY OF THE REPORT AND INDIVIDUAL ITEM RECORDS**

Site:	Royal Cornwall Museum 25 River Street Truro Cornwall TR1 2SJ
Building:	Circa mid 1800s stone built building with a pitched roof
Floor Level / Area:	External
Ref No & Plan No:	L-29909RV1 Page 2 of 2

KEY

Positive ACMs /items	
Non Asbestos / Negative ACMs	
No Access / Limited Access	
Areas excluded from the survey	

Please note:
Where provided floor plans should be regarded as sketch-plans and for identification purposes only. They are intended to provide a visual appreciation of the buildings surveyed, showing locations of suspected ACMs, areas of no access and where samples were taken.



- **THIS PLAN SHOULD BE READ IN CONJUNCTION WITH THE MAIN BODY OF THE REPORT AND INDIVIDUAL ITEM RECORDS**

Appendix 2: Certificate of Bulk Sample Analysis

Allium Environmental Ltd.
Baldhu House, Wheal Jane Earth
Science Park, Baldhu, Truro TR3 6EH
Tel: 01872 276375
Email: enquiries@allium.uk.net Web: www.allium.uk.net

BULK ANALYSIS TEST REPORT

Report Number:	L-29909RV1	**Issue No:**	2	**Date Reported:**	21/12/23	Page 1 of 2	
Comments:							

Client:	Jackie George				
Client Address:	Royal Cornwall Museum, 25 River Street, Truro, Cornwall, TR1 2SJ				
Site Address/Location:	Royal Cornwall Museum, 25 River Street, Truro, Cornwall, TR1 2SJ				
Date Sampled:	06/11/23 & 21/12/23	**Sampled By:**	Bryan Read & Hadyn Veale		
Date Samples Received:	08/11/23 & 21/12/23	**Client Order No.:**	Invoice Prior	**No. of Samples:**	7
Date Analysed:	21/11/23 to 21/12/23	**Analysed by:**	Victoria Berry & Gary Lowe		

Analysis of samples was carried out in accordance with the documented 'in-house' procedures and methods based upon HSE Guidance Document HSG 248 Appendix 2. Comments, opinions and interpretations herein are outside the scope of UKAS accreditation. This report may not be reproduced except in full, without written approval of the laboratory.

ANALYSIS RESULTS

Lab Sample Ref. No.	Client Ref.	Sample Type	Sample Details/location/description	Asbestos Type (s)
001		Felt	Ground Floor, 001 Mineral Gallery , Internal/Floor - Felt	No Asbestos Detected
002		Putty	Ground Floor, 001 Mineral Gallery , Internal/Windows/Sills/Skylights - Putty	No Asbestos Detected
003		Insulating Board	External, External/Soffit - Loose Insulation	No Asbestos Detected
004		Cement	External, External/Roof - Loose Insulation	Chrysotile
005		Insulating Board	External, External/Soffit - Insulating Board Panel	No Asbestos Detected
006		Cement	External, External/Roof - Cement Roof Tiles	Chrysotile
007		Cement	External, External/Roof - Cement Roof Tiles	No Asbestos Detected

- Materials have been referred to as Asbestos Insulating Board or Asbestos Cement based upon their asbestos content and visual appearance alone.
- Where samples have not been taken by Allium Environmental Ltd the results apply to the sample as received, it can only report analysis results. No responsibility can be taken for any consequences arising from the client's sampling strategy or procedures, for the acts or omissions of others, or the use of these results in subsequent reports.
- Samples marked $ in this report have been subcontracted to a UKAS accredited laboratory.
- Quantification of the amount of asbestos is not permitted, if 1 or 2 fibres are observed and identified as asbestos, the term 'trace asbestos identified' will be reported.
- Sample(s) were examined for the presence of 6 types of asbestos fibres: Crocidolite (blue), Amosite (brown), Chrysotile (white), Anthophyllite, Actinolite and Tremolite.
- Where samples have been taken by Allium Environmental Ltd this has been to the in-house surveying/sampling procedure AL003, a copy of which is available on request.
- Samples are retained for 6 months and records/reports are retained for 6 years

Allium Environmental Ltd.
Baldhu House, Wheal Jane Earth
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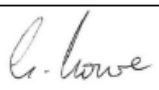
Email: enquiries@allium.uk.net Web: www.allium.uk.net

Additional Comments:	Analyst:	Gary Lowe
	Analysts Signature:	
	Approved by:	Gary Lowe
	Authorised Signature:	
E N D O F R E P O R T		

Appendix C

Royal Cornwall Museum
Truro, Cornwall

Bat and Nesting Bird Visual Survey and Detailed Bat Surveys

Ref:
BE751.1

Date:
25th March 2024

Prepared by:
Dr Janine Bright CMIEEM CEnv

For:
Royal Cornwall Museum

Bright Environment Ltd
Meadow Cott, Chute Lane, Gorran Haven, Cornwall, PL26 6NU
T:07974204078 E:janine@brightenvironment.net W:www.brightenvironment.net

Contents

Bright Environment Ltd
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T:07974204078 E:janine@brightenvironment.net W:www.brightenvironment.net

1. INTRODUCTION

It is proposed to re-roof the Royal Cornwall Museum, 25 River Street, Truro, Cornwall, TR1 2SJ. The OS Grid reference of the site is SW8237544887.

Bright Environment was commissioned by the Royal Cornwall Museum in October 2021 to carry out a visual bat and nesting bird survey to inform the works. Bats and nesting birds are legally protected (see Appendix 1).

The survey area is defined in Figure 1 over leaf. The roofs are referenced R1-5 and S1-6 on Figure 1 and throughout the report. The presence or absence of bats in the following roofs could not be determined via the visual survey alone - R1, R3, R4 and R5. These roofs were assessed as having low potential for bats so one emergence survey between May and August was required to prove absence (in accordance with Bat Survey Guidelines produced by BCT). Remote monitoring of R1 was also required. These detailed bat surveys were carried out in July 2022.

In March 2024 Bright Environment Ltd was commissioned by The Royal Cornwall Museum to carry out an updated survey and to update the report.

The results of all surveys are included in this report.

2. METHODOLOGY

The survey methodology adopted follows the guidance given in 'Bat Surveys for Professional Ecologists – Good Practice Guidelines' (Collins, 2016) and 'Barn owl survey methodology and techniques for use in ecological assessment' (Shawyer, 2011). Impact assessment and mitigation follows the guidance provided by CIEEM (2018) and the 'Bat Mitigation Guidelines' (Mitchell-Jones, 2004). The survey area is defined in Figure 1 over leaf. The roofs are referenced R1-5 and S1-6 on Figure 1 and throughout the report.

2.1 Visual survey methodology

A visual survey of the building was carried out on 19th October 2021. During this the suitability of the building and surrounding habitats to support bats and nesting birds was made.

A detailed search of the interior of the building was carried out using a high powered torch to illuminate all areas thought suitable for bats and nesting birds. Any accessible cracks and crevices were investigated with the use of a torch and endoscope. The exterior of the building was viewd from ground level and many elevations of the roofs were also viewed from flat roof sections. This allowed the identification of potential bat access points.

The survey involved looking for bats and nesting birds and for evidence of their use, including droppings, pellets, staining, liming, feathers and feeding remains. Survey details are shown in Table 1.

Potential bat roosts identified during the visual inspection of the building were categorised as to their suitability in accordance with the Bat Conservation Trust's (BCT) Good Practice Guidelines (Collins, 2016) as described below:

- Negligible: negligible features with potential to support roosting bats.
- Low: one or more features with potential to support individual bats on an occasional basis. Unlikely to support large numbers of bats.
- Moderate: one or more features with potential to support roosting bats but unlikely to be of high conservation status.
- High: one or more features with potential to support large numbers of bats on a regular basis

2.2 Bat emergence surveys methodology

During the visual survey it was concluded that the following roofs have no potential as bat roosts and do not require further survey - R2, S1, S2, S4, S5, S6 and S7.

The presence or absence of bats in the following roofs could not be determined via a visual survey alone - R1, R3, R4 and R5. These roofs were assessed as having low potential for bats so one survey between May and August was required to prove absence (in accordance with Bat Survey Guidelines produced by BCT). One emergence survey was carried out, on 4th July 2022, to record any bats emerging from the building. The surveys commenced 15 minutes before sunset and continued until one hour after sunset. Six surveyors were employed to provide coverage of the elevations/roofs requiring further survey. All surveyors used Echometer Touch bat detectors, employing heterodyne and real time expansion methods of detection. The location of surveyors is shown Figure 1.

See section 2.4 for justification in not repeating this survey in 2024.

2.3 Remote monitoring methodology

Due to the presence of a hanging ceiling, it was not possible to carry out a visual search of R1. Remote monitoring (at least five consecutive nights between May and August) of R1 was recommended. This was carried out from 4th - 12th July 2022 (8 consecutive nights). A SongMeter (SM2+) detector was placed in the roof void and set to record bats from one hour before sunset to one hour after sunrise (see Figure 1 for location).

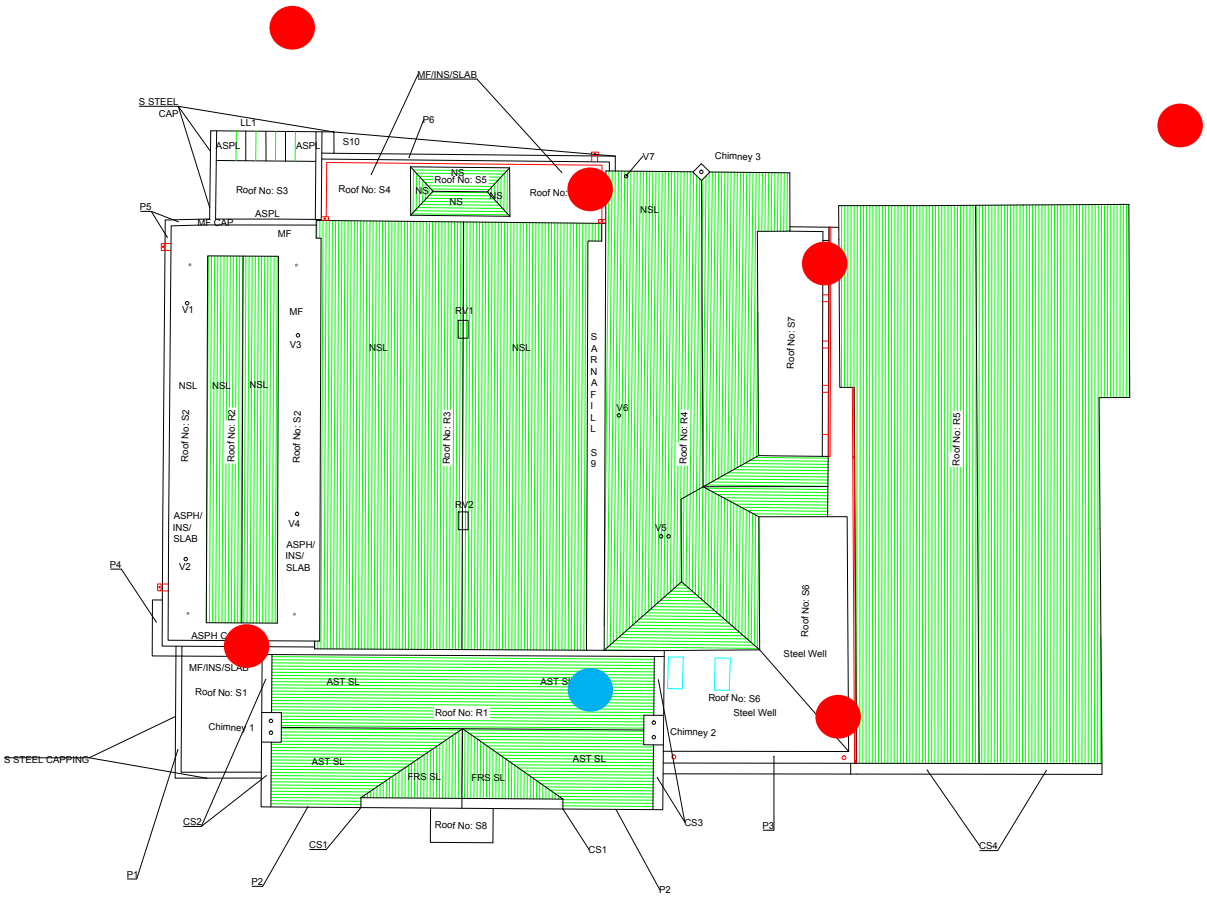

Figure 2. Roof plan showing proposed location of surveyors ( ) and remote monitoring ( ) for phase 2 ecology surveys.

2.4 Update report survey methodology

CIEEM produce guidance on the lifespan of ecological reports (CIEEM, 2019). In following this guidance, a repeat visual survey was carried out on 25th March 2025 to;

- Identify any evidence of roosting bats, and
- Identify whether there had been any significant changes to the habitats present.

If either of the above had occurred, then the site would have been subject to an updated bat emergence survey to prove absence. But sufficient survey effort in 2022 was carried out to prove the absence or bats and, as there had been no change in the habitat or new evidence, it was concluded in March 2024 that an updated emergence survey was not required. Conversely had bats emerged in 2022 it would have been necessary to update both the visual and emergence survey in 2024. The methodology employed follows the guidance produced by CIEEM (2019).

Table 1 Survey details.

Date	Type of survey	Personnel - bat licence number	Weather conditions
19.10.21	Visual survey	Dr Janine Bright 2020-49235-CLS-CLS	Light Rain, light breeze, overcast. Temp 16C
4.7.22	Emergence survey	Dr Janine Bright 2020-49235-CLS-CLS Emma Pethick CL17-2021-53399-CLS-CLS Jason Trewinnard Leanne Rogers Oscar Bright Charlotte Martin-Taylor	Dry, calm, patchy cloud. Temp 13-15C Time of sunset 21.32hrs
4.7.22 to 12.7.22	Remote monitoring	Dr Janine Bright 2020-49235-CLS-CLS	Dry and warm for duration. The temperature range recorded by the detector inside the building was 19-25C
25.3.24	Visual survey	Dr Janine Bright 2020-49235-CLS-CLS	Light Rain, calm, overcast. Temp 10C

3. SURVEY RESULTS

3.1 Habitat description

The Royal Cornwall Museum is located in the centre of Truro. It is an urban setting with the nearest 'green space' being a park 130m to the west. Foraging opportunities for bats are limited at the site.

The building is Grade II listed and was built in 1845 originally as a bank. Part of the museum was a chapel. The building is fronted with cut granite. Other stone elevations are rendered. There is a flat roof link section connecting the main museum with the chapel. The roof sections are described in detail in section 3.2.

Photograph 1. South (front) elevation.

Photograph 2. North (rear) elevation.

3.2 Visual bat survey results and recommendations

3.2.1 Roof No R1

Roof No R1 is above the library and is a pitched gable roof. It has a granite front façade (Photograph 1) and granite gable (Photograph 3). There are granite cornices at the eaves (Photograph 4). These features do not allow any potential bat access points. The roof covering is natural slate with clay ridge tiles. The front roof slope was not visible from the ground. No obvious potential bat access points were observed in the rear roof slope. It was not possible to gain entry to the roof void as there was a non-weight bearing hanging ceiling. A single ceiling tile was removed so that the void could be seen. The underside of the roof covering has a fibrous insulation. This insulation is above the rafters but below the slates and is likely to block bat entry into the roof void. It is possible that bats could roost unseen beneath ridge tiles or behind slates in the void created by the battens (should potential bat access points be present). The presence or absence of bats in R1 could not be determined via a visual survey alone. R1 has been assessed as having low potential as a bat roost. Therefore, one emergence survey at dusk using two surveyors and 5 consecutive nights of remote monitoring in the roof void was recommended to prove absence of bats.

Photograph 3. Granite gable of Roof No R1 and southern parts of R4.

Photograph 4. Granite cornices of Roof No R1.

3.2.2 Roof No R2

Roof No R2 is pitched gable roof. It has flat roof sections at the eaves (Roof No S2). It is therefore possible to walk entirely around Roof No R2 at the flat roof height. The roof covering is natural slate with clay ridge tiles. There is a foil type membrane present. No potential bat access points were observed to allow bats to the voids between the membrane and slates nor under the ridge tiles. At each gable is a louvred metal door which could potentially allow bat access to the walk-in void within. However, a thorough search of this void was achieved and no evidence of roosting bats was found. The hanging slates on the gables do not have any potential bat access points. A through search or all areas accessible to roosting bats was carried out an no evidence was found. Roof No R2 has been assessed as having negligible potential as a bat roost and no further surveys of this roof were required.

Photograph 5. Roof No R2 North and east elevations. Photograph 6. Roof No R2 internal.

3.2.3 Roof No R3

Roof No R3 is above the main gallery of the museum. This part of the museum has an arched vaulted vaulting. There is a large walk-in roof void above this ceiling. The access is via a wooden louvred door on the north gable. The large pitched gable roof has a covering of natural slate with clay ridge tiles. There are wooden sarking boards beneath the slates. There are two roof vents (see photographs 7 and 8) that have gaps that could potentially allow bats to enter the roof void. Bats may also potentially enter the void via the louvered door. However, no evidence of bats was found within the void.

The soffits are tightly fitted to the render at the gables (Photograph 11), however there are gaps between the slates and the soffit that would allow bats to potentially gain access to the void between the slates and the sarking boards. There are also some lifted slates across the main part of the roof.

The presence or absence of bats in R3 could not be determined via a visual survey alone. R3 was assessed as having low potential as a bat roost. Therefore, one emergence survey at dusk using two surveyors was recommended to prove absence of bats. Remote monitoring of the void was not required. R3 was surveyed at dusk from the flat roof sections.

Photograph 7. Roof No R3 North and west elevations. Photograph 8. Roof vent in No R3.

Photograph 9. Roof No R3 louvred door. Photograph 10. Roof void No R3.

Photograph 11. Tightly fitted soffit of R3.

Photograph 12. Gaps between soffit and slates on R3.

3.2.4 Roof No R4

Roof No R4 is a complex design roof it is pitched with a gable at the north elevation, a hip at the south elevation and an intersecting roof section (see Photograph 3 and Figure 1). It has a roof covering of natural slate and clay ridges. Internally the ceiling is vaulted and there is no accessible roof void. Large gaps were observed between the rafters at the eaves (see Photograph 13). This would potentially allow bats to gain entry into the void between the roof and the vaulted ceiling.

The presence or absence of bats in R4 could not be determined via a visual survey alone. R4 was assessed as having low potential as a bat roost. Therefore, one emergence survey at dusk using two surveyors (a third surveyor covering R3 also covered the west roof slope of R4) was recommended to prove absence of bats. Remote monitoring was not required. R4 was surveyed at dusk from the flat roof sections.

Photograph 13. Gaps between the rafters at the eaves of R4.

3.2.5 Roof No R5

Roof No R5 is above the former chapel. There is a large walk-in roof void that houses the air circulation system for the museum. The roof covering is natural slate with bitumen felt. No evidence of bats was found within the void. The chapel roof has a stone gable at the south elevation. The soffit is tightly fitted to the render at the north gable, however there are gaps beneath the ridge tiles that may allow bats to gain entry to the ridge void.

The presence or absence of bats in R5 could not be determined via a visual survey alone. R5 was assessed as having low potential as a bat roost. Therefore, one emergence survey at dusk using two surveyors was recommended to prove absence of bats. Remote monitoring of the void was not required. R5 was surveyed at dusk with one surveyor on the flat roof and one on the road on the north elevation.

There is a small eaves void in the north east corner of R5. This has a concrete base. No evidence of bats was found within.

Photograph 14. West roof slope of R5.

Photograph 15. Roof void of R5.

3.2.6 Roof No S5

There is a small hipped roof within the flat roof (S4) to the north of R3 (see Photograph 16). It is possible that this was a former light-well that has been slated. It does not have any potential for roosting bats and no further surveys of S5 were required.

Photograph 16. Roof No S5.

3.2.7 Roof No S1

Roof S1 is a flat roof with stone cornices. It has no potential for roosting bats and did not require further survey.

3.2.8 Roof No S2

Roof S2 is a flat roof with stone cornices (see Photograph 4). It has no potential for roosting bats and did not require further survey.

3.2.9 Roof No S3

Roof S3 is a flat roof with a sloped roof section on the north elevation. The flat roof has no potential for roosting bats. The facias on the north elevation at the eaves of the sloping roof have gaps behind that could harbour roosting bats. These could not be visually searched. The presence or absence of bats in S3 could not be determined via a visual survey alone. S3 was assessed as having low potential as a bat roost. Therefore, one emergence survey at dusk using one surveyor stood at ground level on the north elevation was recommended to prove absence of bats.

3.2.10 Roof No S4

Roof S4 is a flat roof with no fascia or soffit features. It has no potential for roosting bats and did not require further survey.

3.2.11 Roof No S6

Roof S6 is a zinc roof with no potential for roosting bats and did not require further survey.

3.2.12 Roof No S7

Roof S7 is a flat roof with no potential for roosting bats and did not require further survey.

3.3 Emergence survey results

No bats emerged from the museum at dusk.

Bat activity around the museum was very low. Three bat passes from Natterers bat, two from common pipistrelle and one from Noctule were recorded. These bats were not associated with the museum building.

3.4 Remote monitoring bat survey results

No bats were recorded in R1 during the remote monitoring event.

3.5 Updated visual survey results

No evidence of bats was found within any of the roof voids during the update survey carried out on 25th March 2024 and no habitat changes were identified.

3.6 Interpretation and evaluation of bat survey results

In accordance with the 'Bat Surveys for Professional Ecologists – Good Practice Guidelines' (Collins, 2016) and guidelines produced by CIEEM (2019); **sufficient survey effort has been employed to demonstrate the absence of roosting bats at Royal Cornwall Museum.** No mitigation for bats is required.

In the unlikely event that bats are discovered during the works, they must not be handled and works must stop immediately and advice sought from Bright Environment (Tel 07974 204078) or Natural (Tel 0300 060 3900).

3.7 Nesting bird survey results and recommendations

During the October 2021 and March 2025 surveys, feathers were found within R1 and R2 but no evidence of nesting birds was seen. It is possible that feathers may have blown in via the vents. Seagulls and pigeons were observed with active nests on the flat roof sections of the museum during the July 2022 survey at dusk. No new evidence was found in March 2024.

It is possible that bird nests could be concealed from view on wall tops or soffit boxes.

The nests and eggs of all wild birds are protected against taking, damage or destruction under the Wildlife and Countryside Act 1981. It is recommended that the works are carried out between

October and February inclusive to avoid disturbing nesting birds. If the works are to be carried out within the bird breeding season (March to September) the building should be searched for nesting birds. If nesting birds are present, works should not commence until dependant young have fledged. Further advice can be sought from Bright Environment (Tel 07974 204078) or Natural England (Tel 0300 0602544).

As ecological features can change over time it is recommended that this report is valid until April 2025.

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Appendix 1 Summary of relevant legislation, policies and case law

Bats

All British bat are European protected species and are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010. Together, this legislation makes it illegal to:

- Intentionally kill, injure or capture a bat;
- Intentionally or recklessly disturb a bat;
- Intentionally or recklessly damage, destroy or obstruct access to a place of shelter or breeding (for example, bat roosts), and this applies regardless of whether the species is actually present at the time (for example, a bat roost used in the winter for hibernation is protected throughout the year, even during the summer when it is not occupied).
- Possess or transport a bat or any part of a bat, unless acquired legally;
- Sell, barter or exchange bats, or parts of a bat.
- Intentionally handle a wild bat or disturb an bat whilst using a place of shelter/ breeding unless licensed to do so by the statutory conservation agency (Natural England).

Barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe bats are priority species for conservation on the UK BAP and protected under the NERC Act 2006. Barbastelle, pipistrelle, greater and lesser horseshoe bats are county priority BAP species (CBI, 2004).

Case Law

There are several case laws in Britain relating to the duty of developers and planning authorities with respect to wildlife, resulting in several key principles summarised in the table below:

Case / Appeal	Providing support for
Morge v Hampshire County Council (2011)	'Disturbance' under the Conservation Regulations 2010 applies to an activity likely to impact negatively on the local population of a European Protected Species.
R v Cheshire East Council 'The Woolley Case' (2009)	Regarding European Protected Species, Local Authorities must apply the 'three tests' under the Conservation Regulations 2010 when deciding on planning applications: that there is no satisfactory alternative, there is an appropriate reason for the development, and that the development will not affect the favourable conservation status of protected species present.
APP/P9502/A/08/2070105 (Appeal decision, Brecon, 2008)	Para 18: Local Planning Authorities cannot condition provision of a mitigation scheme; detailed mitigation must be provided prior to determination.
APP/C0820/A/07/2046271 (Appeal decision, Padstow, 2007)	Para 18: Full survey information must be provided prior to determination; not just for protected species, but also for BAP species (in this case corn buntings).
R v London Borough Council Bromley (2006)	Para 30: Environmental Impact Assessment required at outline planning stage.
R v Cornwall County Council 'The Cornwall Case' (2001)	Surveys for protected species cannot be conditioned; must be undertaken prior to determination.

Barn owls and other nesting birds

The nests and eggs of all wild birds are protected against taking, damage and destruction under the Wildlife and Countryside Act 1981. Barn owls are given greater protection against disturbance while breeding under Schedule 1 of the Act.

National Planning Policy Framework 2023

The National Planning Policy Framework (NPPF) sets out national planning policy that is committed to minimising impacts on biodiversity and providing net gains in biodiversity. Under NPPF, local planning authorities have an obligation to promote the preservation, restoration and recreation of Priority habitats, ecological networks and the protection and recovery of Priority species.

Appendix D

Design Hazard Review

Roof Repair Works (MEND)

The Royal Institute of Cornwall

Version	Date	Prepared by	Checked by
T01	11.04.24	Nick Harman	Tom Cooke

Scale	1 to 4	Low
Scale	5 to 8	Medium / Low
Scale	9 to 16	Medium / High
Scale	17 to 25	High

				Risk Assessment				Action Plan - Residual Risk			
Element	Hazard	Potential Impact	Mitigation	Probability	Impact	Risk Score / Category	Action Plan	Action Owner	Next Action Target Date	Date Achieved	Comments
Site Implications											
Vehicles / Plant Movements & Site Deliveries	Moving vehicles/deliveries to and from site.	Injury to members of public and operatives. Damage to buildings, other vehicles, equipment.	Restrictions to be put in place to manage the timing of arrival and departures from site to avoid peak times of pedestrian traffic. Due to restrictive site and the inability to provide segregated transit routes, in addition to limiting the times access can be made, a banksman shall be required to supervise vehicle movements at all times.	5	4	20	The Principal Contractor (PC) is to implement a traffic/pedestrian management system. Use signage and designated areas for traffic/pedestrian access. Provide adequate training and banksmen where required. Movement of plant to be supervised at all times.	Principal Contractor	Site Phase		Maintain throughout construction phase.
Working at height	Falls / Objects falling from heights when working at roof level externally and internally within roof voids. Unsafe access /egress.	Injury to members of public and operatives. Damage to buildings, other vehicles, equipment.	External full perimeter scaffold to areas requiring access with appropriate guard rails /toe boards /netting shall be required to prevent falls from height / falling debris. Perimeter fencing to prevent access to beneath scaffold. Installation Oxford Safety Trellis to provide safe access as required within roof voids. i.e. Oxford Safety Trellis and timber boarding and handrails and guarding.	3	4	12	The Principal Contractor is to allow for providing safe working access via scaffolding and employ the proposed collective fall prevents measures. The Contractor shall review and may propose alternative safe working method with means to prevent falls and objects falling from height. The Principal Contractor to install the safe access guardrail and self closing gate to perimeter of existing access hatch prior to removal and installation within roof space.	Principal Contractor	Site Phase		

				Risk Assessment				Action Plan – Residual Risk			
Element	Hazard	Potential Impact	Mitigation	Probability	Impact	Risk Score / Category	Action Plan	Action Owner	Next Action Target Date	Date Achieved	Comments
Working within restricted and/or confined Spaces	Risks from noxious fumes, risk of fire, becoming trapped.	Injury to operatives. Operatives become trapped in a fire.	Ensure ventilation and clear egress from area if hazards arise.	2	4	8	The Principal Contractor (PC) is to provide suitable method statements/risk assessments for working within any void and any other restricted areas and/or confined spaces. KKL to review and confirm Principal Contractors RAMS prior to works commencing on site.	Principal Contractor /KK	Site Phase		
Site deliveries	Collision with materials or operatives.	Injury or ill health to workers, site occupants and members of public.	Traffic management system to be implimented.	2	3	6	The Principal Contractor (PC) is to provide adequate signage for the works.	Principal Contractor /KK	Site Phase		
Covid-19	Spread of Infection/Ability to secure labour and materials.	Disruption to site operations Ill health to contractors and visitors.	Principal Contractor to follow government rules in relation to working practices and methods, at time of construction.	1	5	5	All parties and duty holders must comply with Government control measures.	Principal Contractor /KK	Site Phase		
Demolitions / Removals											
Structure removal	Premature collapse. Debris falling onto site and public areas.	Health risk to members of public and operatives. Damage to buildings, other vehicles, equipment.	Demarcation zones, pathway diversions, dust suppression, progressive de-construction by hand.	5	5	25	The Principal Contractor (PC) shall ensure works are undertaken in a safe manner in by suitably trained operatives. Update method statements if/where required to reflect works.	Principal Contractor	Site Phase		
Working Above Occupied Spaces	Falls from height. Risk of falling objects to public and staff.	Injury or ill heal to members of the public and operatives. Damage to ceilings in a listed building.	Use of safe working systems and methodes while working in roof voids e.g. Oxford Safety Trellis. All works in the roof void below R3 (Main Gallery) should be done by a specialist working at height contractors with a sfe system of work in place. Specific care should be taken to the britle glazing present in the in the arched ceiling over the main gallery.	4	5	20	The Principal Contractor is to allow for providing safe working access via scaffolding and employ the proposed collective fall prevents measures. The Contractor shall review and may propose alternative safe working method with means to prevent falls and objects falling from height. The Principle Contractor shall allow to employe a specialist working at hight contractor	Principal Contractor	Site Phase		
Asbestos	Discovery of previously unknown ACMs.	Health risk to members of public and operatives. Risk of disturbing ACMs and release of fibres. Removal requires 2 week notification to HSE (licensed).	ACM testing to be carried out immediately on discovery of suspected asbestos in order to confirm properties of material found and removal procedure required. All operatives to have undertaken asbestos awareness training.	3	5	15	If the Contractor identifies any suspicious materials, they are to stop works and notify the Contract Administrator as soon as possible. The Principal Contractor shall plan the works and implement site inductions, toolbox talks and robust site management procedures to ensure that operatives are aware of any known ACM and procedures for dealing with previously unknown ACMs.	Principal Contractor	Site Phase		

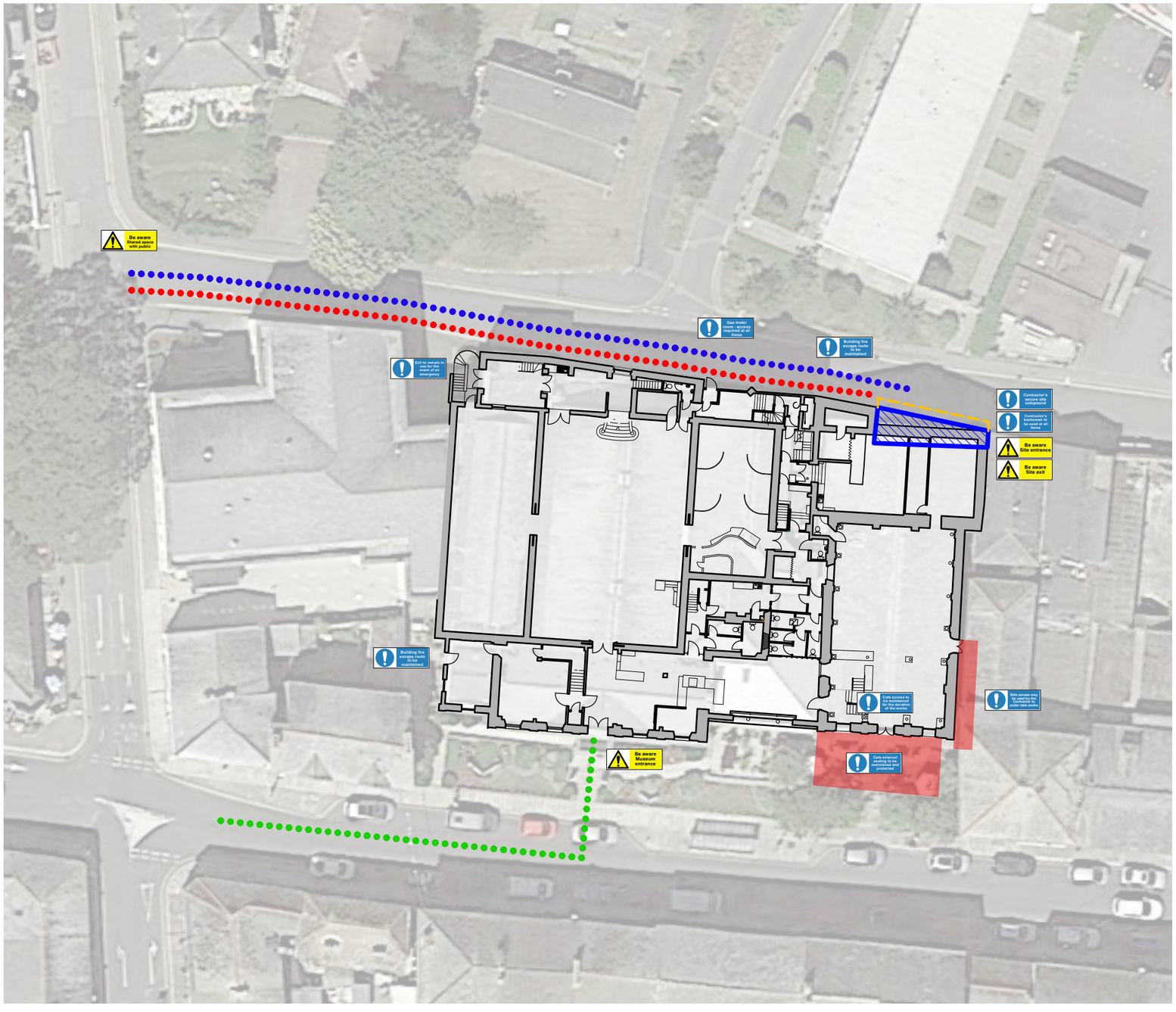
				Risk Assessment				Action Plan – Residual Risk			
Element	Hazard	Potential Impact	Mitigation	Probability	Impact	Risk Score / Category	Action Plan	Action Owner	Next Action Target Date	Date Achieved	Comments
Fire Routes	Works taking place within the existing building obscuring fire routes.	Hampering means of escape or areas required for fire fighting access	Programme works to ensure fire escape routes are maintained. Ensure Fire Engine access is not obscured by construction traffic.	2	5	10	Contractor is to ensure fire exits and fire engine access routes are kept clear during the works.	Principal Contractor	Site Phase		
Dust	Dust Migration/Dust inhalation.	Injury/ill health to members of public and operatives.	Implement dust control measures to the works areas, including dust suppression, wet cutting/drilling, damping down, shadow vacuuming for drilling/cutting operations and adhere to the Client's permit to work system requirements.	3	3	9	The Principal Contractors shall employ collective safety measures such as damping down, shadow vacuuming when drilling or cutting. With individual PPE. Contractor shall provide dust control method statements/risk assessments in accordance with the hospital's requirements and those set out in KK's design packages.	Principal Contractor	Site Phase		Maintain throughout site phase.
Concealed voids	Opening up / inspection of concealed voids has not occurred and within such voids and other concealed areas, there remains a risk that previously undiscovered asbestos containing materials could be discovered.	Adverse health effects from encountering asbestos fibres Prosecution Fines / compensation	It should be noted that a refurbishment and demolition asbestos survey has occurred and that any contractors undertaking demolition / removal work should be asbestos awareness trained.	3	3	9	The Principal Contractor shall ensure that all Contractors are aware of their duties for employees to be asbestos awareness trained.	Principal Contractor /KK	Site Phase		Maintain throughout site phase.
Working at height	Falls from height.	Injury or ill health.	Allow for suitable safety equipment, safe access equipment and appropriate guardrailing, barriers and platforms.	2	4	8	The Principal Contractor (PC) is to allow for providing safe working platforms, working areas and harnessing as required.	Principal Contractor	Site Phase		Maintain throughout site phase.
Working at height (greater than 2m from ground level)	Objects falling from heights.	Injury or ill health to pesons below.	Reduce the amount of work required at height with prefabrication.	2	3	6	The Principal Contractor (PC) is to allow for providing safe working platforms, working areas and harnessing as required.	Principal Contractor	Site Phase		Maintain throughout site phase.
Noise/Vibration	Noise/Vibration causing disturbance.	Injury/ill health to members of public and operatives.	Implement noise control measures to the works areas including limitation on working hours/duration of noisy/vibration operations, adhere to the Client's permit to work system requirements.	2	3	6	The Principal Contractors shall employ collective safety measures, plan and co-ordinate works and allow adequate resources and supplement with individual PPE.	Principal Contractor	Site Phase		Maintain throughout site phase.
Removal of materials	Cuts, abrasions, dust inhalation etc.	Injury/ill health to members of public and operatives.	Provide appropriate PPE for the task in hand.	2	3	6	The Principal Contractor (PC) is to ensure workforce is provided and use relevant PPE during the course of the works. Update method statements if/where required to reflect works.	Principal Contractor	Site Phase		Maintain throughout site phase.

				Risk Assessment				Action Plan – Residual Risk			
Element	Hazard	Potential Impact	Mitigation	Probability	Impact	Risk Score / Category	Action Plan	Action Owner	Next Action Target Date	Date Achieved	Comments
Roof Structures											
Pitched roofs	The design for the new pitched roof coverings requires the installation of thermal insulation between and under rafters; whilst consideration has been given to alternative designs, this is the only feasible arrangement and represents a hazard in that employees undertaken installation works will be exposed to a falling hazard whereby the spaces between existing rafters / trusses is wide enough for persons to fall through into the room below.	Falling between rafters / trusses leading to: Death / injury Prosecution Fines / compensation	The feasibility of alternative designs have been considered but due to the existing arrangement of the building, the final design put forward is the only practicable option. It will therefore be necessary for the contractor to employ the use of safety measures to mitigate the falling risk.	4	5	20	Include a requirement within the specification for the contractor to design and install safety systems to mitigate the risk of falling from height. It is expected that this will include: Design and installation of netting below the rafters Harness lanyard system in place above rafter level.	Principal Contractor /KK	Tender Return		Maintain throughout site phase.
Roof deck	Opening up of the building has not occurred and the construction and condition of the flat roof decks is unknown.	Falling, leading to injury / death Prosecution Fines / compensation	When the contractor has possession of areas below, undertake opening up of ceiling voids etc. in order that the condition and construction of the deck can be inspected from below.	2	5	10	Ensure that contractors are aware of their obligation to inspect roof deck.	Principal Contractor /KK	Site Phase		Maintain throughout site phase.
M&E Services											
Live Services /Buried services	Cutting into or otherwise affecting live services.	Risk of Explosion/electrocution and direct harm to members of public and operatives. Disruption to adjacent buildings and facilities.	Disconnect/isolate services where possible prior to works commencement, in accordance with buried services survey. Complete safe verification of services prior to commencing works. Operate permit to work systems.	4	5	20	Principal Contractor (PC) to ensure that sub-contractors are aware of hazards. Specify work to be undertaken by competent and suitably qualified operatives.	Principal Contractor	Site Phase		
Electrical installations (working with electricity)	Disruption of essential services to the existing buildings on site.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Provide PPE and undertake works in a safe manner in accordance with the IEE Regulations. Use competent and suitably qualified operatives.	2	5	10	Principal Contractor (PC) to ensure that sub-contractors are aware of hazards. Specify work to be undertaken by competent and suitably qualified operatives.	Principal Contractor	Site Phase		
Electrical installations (working with electricity)	Electrocution during the use of electrical tools for fabrication purposes.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Use of battery powered tools. Provide PPE and undertake works in a safe manner in accordance with the IEE Regulations. Use of competent and suitably qualified operatives	2	5	10	Principal Contractor (PC) to ensure the use of battery powered tools wherever possible and due care and attention and provision of residual circuit breakers at all times.	Principal Contractor	Site Phase		
General											

				Risk Assessment				Action Plan - Residual Risk			
Element	Hazard	Potential Impact	Mitigation	Probability	Impact	Risk Score / Category	Action Plan	Action Owner	Next Action Target Date	Date Achieved	Comments
Site security	Risk of theft, trespassing from the public if site not fully secured.	Risk of arson, risk of injury to public.	Full scaffolding and fencing erected around site, fully secured at night. All materials locked away. Security guard option if issues arise.	4	4	16	Contractor to fully board and fence scaffolding.	Principal Contractor	Site Phase		Maintain throughout site phase.
Decoration products	Working with paints, stains, silicones and other hazordous materials.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Specify and use of non toxic materials where possible.	2	5	10	The Principal Contractor (PC) shall ensure the correct PPE has been provided and works are undertaken in well ventilated areas.	Principal Contractor	Site Phase		
General injury from site working	Muscle damage through manhandling heavy construction materials and components etc.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Specification of appropriate materials. Recommend the provision of lifting gear/assistance for materials exceeding 20kg in weight. Avoid solo handling of large objects.	3	3	9	The Principal Contractor (PC) shall ensure works are undertaken in a safe manner in by suitably trained operatives. Update method statements if/where required to reflect works.	Principal Contractor	Site Phase		
Hazardous materials	Skin/eye irritations, noxious fumes, inhaling risks from cement dust, fibrous materials, corrosive materials, paint/solder etc fumes	Injury or ill health to Principal Contractor's staff and/or sub-contractors. Adhere to manufacturers product data sheets.	Limitation of the quantity of hazardous materials to be used and stored on-site.	2	3	6	The Principal Contractor (PC) shall ensure the correct PPE has been provided and works are undertaken in well ventilated areas and awareness of the COSHH information for the material/ product. Update method statements if/where required to reflect works.	Principal Contractor	Site Phase		
Heavy materials	Manual handling injuries.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Specification of lightweight materials and notification to the Principal Contractor of items of risk.	2	3	6	The Principal Contractor (PC) shall ensure works are undertaken in a safe manner in accordance with HSE guidance on lifting heavy equipment/materials. Use lifting apparatus to assist. Update method statements if/where required to reflect works.	Principal Contractor	Site Phase		
General materials	Dust inhalation from cutting board materials.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Specify off-site fabrication as far as practicable and on-site cutting to be undertaken in designated areas.	2	2	4	The Principal Contractor (PC) shall ensure the correct PPE has been provided and works are undertaken by suitably trained operatives.	Principal Contractor	Site Phase		
General injury from site working	Muscle damage through manhandling heavy construction materials and components etc.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Speficiation of appropriate materials. Recommend the provision of lifting gear/assistance for materials exceeding 20kg in weight. Avoid solo handling of large objects.	2	2	4	The Principal Contractor (PC) shall ensure works are undertaken in a safe manner in by suitably trained operatives.	Principal Contractor	Site Phase		

				Risk Assessment			Action Plan - Residual Risk				
Element	Hazard	Potential Impact	Mitigation	Probability	Impact	Risk Score / Category	Action Plan	Action Owner	Next Action Target Date	Date Achieved	Comments
Hot working	Fire hazard, burns, injury from fire and smoke.	Injury or ill health to Principal Contractor's staff and/or sub-contractors.	Specify off-site fabrication as far as practicable and specification of safe working and alternative materials where possible. Where unavoidable, implement permit to work procedure to include post working fire checks.	1	3	3	The Principal Contractor (PC) shall ensure the correct PPE has been provided, extinguishers are within the working area, works are undertaken in well ventilated areas and comply to the requirements of Hot Work Permits. Update method statements if/where required to reflect works.	Principal Contractor	Site Phase		

Appendix E



KEY

- Mandatory action sign
- Prohibition action sign
- Hazard action sign
- Contractor's permitted site movement
- Contractor's permitted site delivery movement
- General public movement
- Main Contractor's site compound, offices and welfare
- Contractor's working area
- Heras fencing

NOTE

Castle Street has double yellow lines throughout. This area is designated as a 'blue badge' parking area and the Contractor will need to take responsibility for obtaining all permits as required to enable scaffold erection.

The Museum and related areas will remain open to the public and staff for the duration of the project.

SITE LOGISTICS PLAN

Kendall Kingscott
Windward House, Fitzroy Road,
Exeter, Devon, EX1 3LJ
+44 (0)1392 266 890
www.kendallkingscott.co.uk

Do not scale this drawing

Rev	Date	By	Ap	Note
T01	26/04/24	SCF	NH	Issued for tender

Project: Royal Cornwall Museum
Roof Repair Works
Client: The Royal Institution of Cornwall

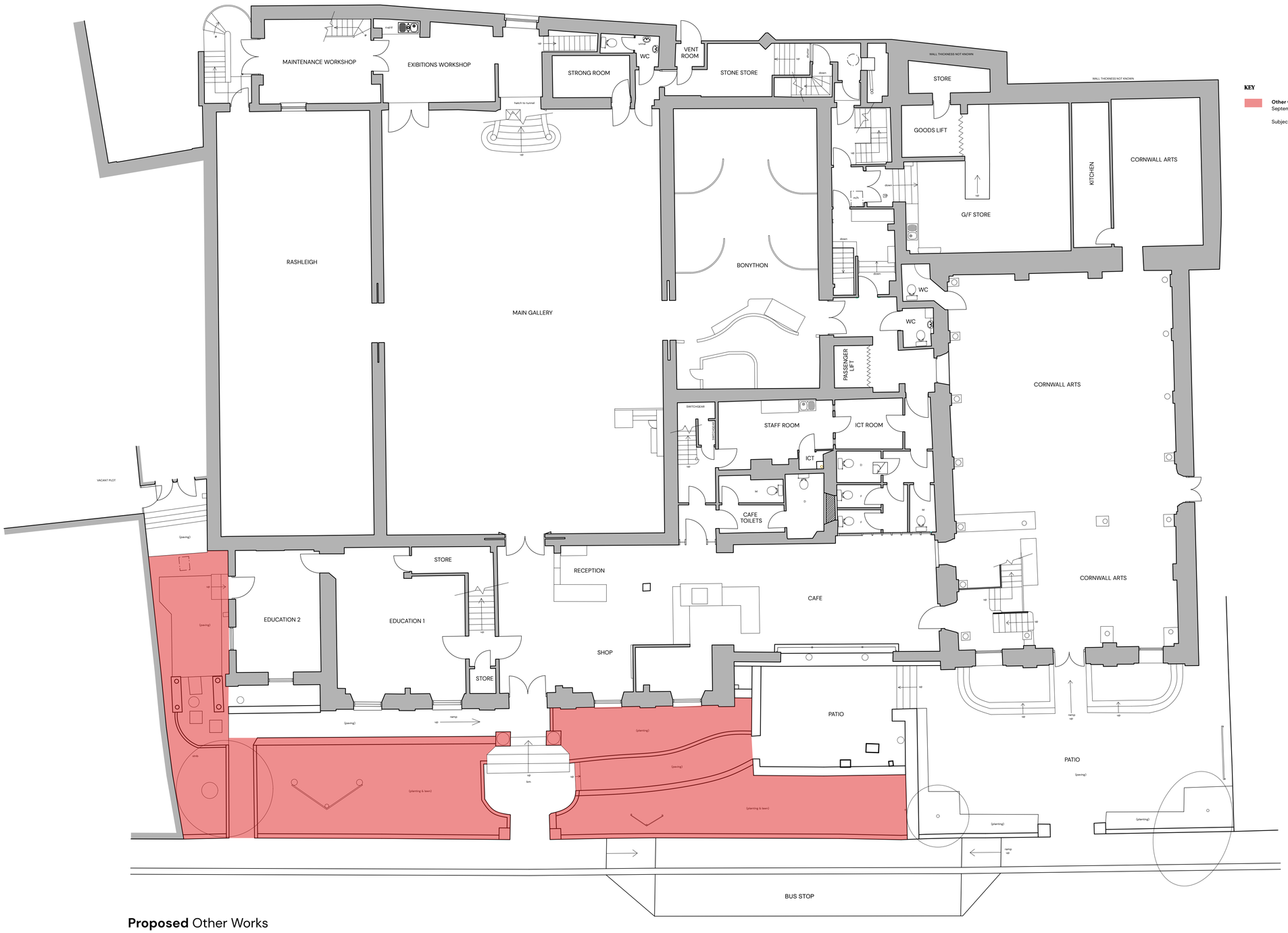
Date: 12/04/24 | Drawn: SCF | Purpose/Status: TENDER
Scale: NTS | Checked: NH | Paper Size: ISO A3

Drawing Title: SITE LOGISTICS PLAN

Project Number/Drawing Number: 230794-RIC-KK-XX-XX-DR-AT-2001
Revision: T01

Check all dimensions and levels on site

Appendix F



Proposed Other Works

Kendall Kingscott
Windward House, Fitzroy Road,
Exeter, Devon, EX1 3LJ
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www.kendallkingscott.co.uk

Do not scale this drawing

Rev	Date	By	Ap	Note
T01	26/04/24	SCF	NH	Issued for tender

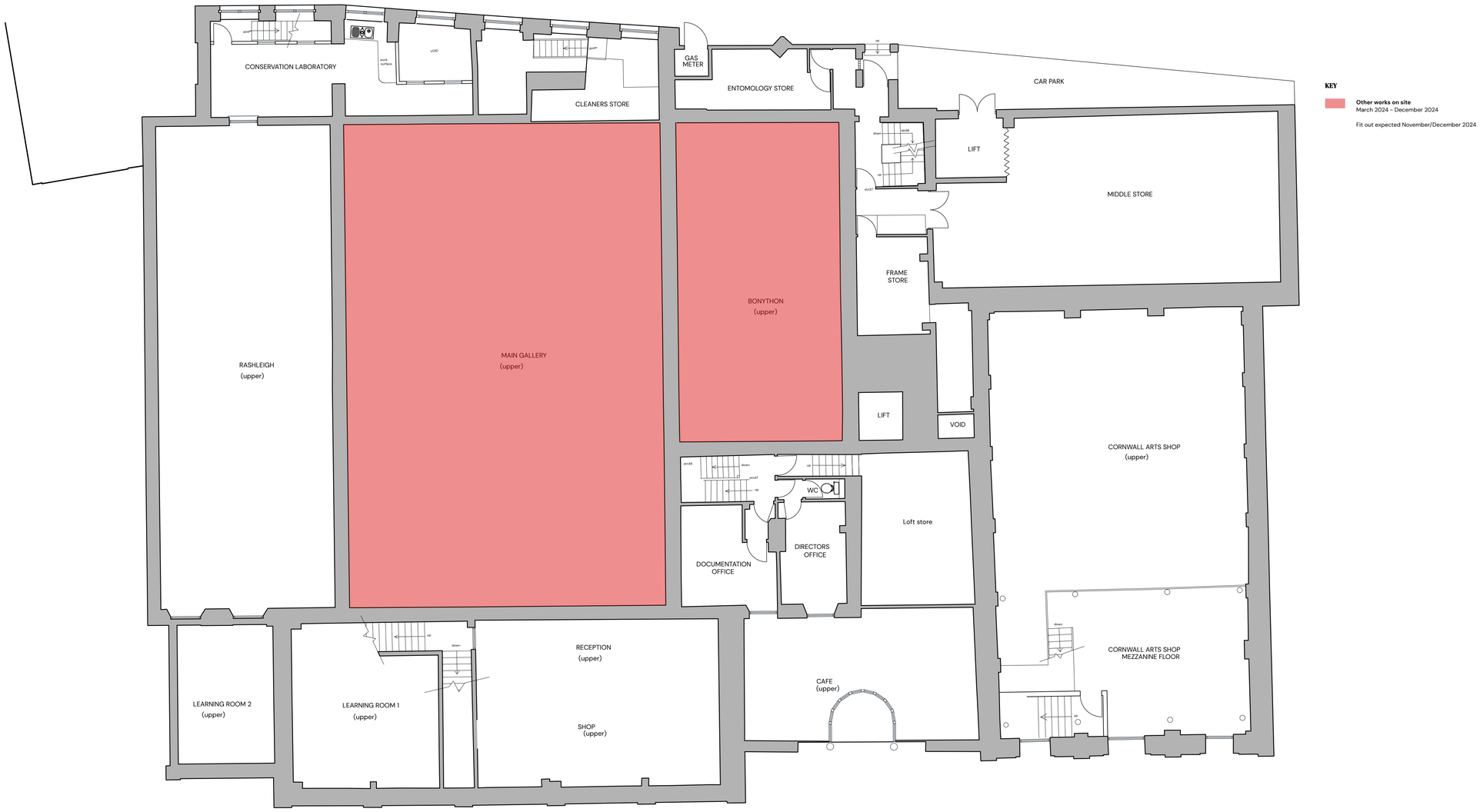
Project
Royal Cornwall Museum
Roof Repair Works
Client
The Royal Institution of Cornwall

Date 11/04/24 | Drawn SCF | Purpose/Status TENDER
Scale 1:100 | Checked NH | Paper Size ISO A1

Drawing Title
PROPOSED OTHER WORKS PLAN

Project Number/Drawing Number
230794-RIC-KK-XX-XX-DR-AT-2002
Revision T01

Check all dimensions and levels on site



Proposed Other Works

Kendall Kingscott
Windward House, Fitzroy Road,
Exeter, Devon, EX1 3LJ
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Do not scale this drawing

Rev	Date	By	Ap	Note
T01	26/04/24	SCF	NH	Issued for tender

Project
Royal Cornwall Museum
Roof Repair Works
Client
The Royal Institution of Cornwall

Date 26/04/24 | Drawn SCF | Purpose/Status TENDER
Scale 1:100 | Checked NH | Paper Size ISO A1

Drawing Title
PROPOSED OTHER WORKS PLAN

Project Number/Drawing Number
230794-RIC-KK-XX-XX-DR-AT-2003
Revision **T01**

Check all dimensions and levels on site

Appendix G

Kendall Kingscott

Prepared by
Jowan James

Checked by
Tom Cooke

Project Number
230794

Date
22.04.2024

Photographic Schedule of Roof Void Above Main Gallery (Roof R3)

Windward House, Fitzroy Road, Exeter, EX1 3LJ
+44 (0)117 931 2062 • kendallkingscott.co.uk

Photographic Schedule

Kendall Kingscott

Photo 1

Photo 2

Photo 3

Photo 4

Photographic Schedule

Kendall Kingscott

Photo 5

Photo 6

Photo 7

Photo 8

Photographic Schedule

Kendall Kingscott

Photo 9

Photo 10

Photo 11

Photo 12

Photographic Schedule

Photo 13

Kendall
Kingscott

Appendix H

QUINQUENNIAL INSPECTION

OF

THE ROYAL CORNWALL MUSEUM AND COURTNEY LIBRARY BUILDINGS

FOR THE INSTITUTION OF CORNWALL

David N Scott B Sc Dip Bldg Cons FRICS
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As inspected October-December 2012
Re-inspected 9th July 2018
DNS/DC/7377

CONTENTS

INSTRUCTIONS

In accordance with your kind instructions, we undertook an inspection of the above initially on 9th July 2018. The external fabric was inspected first with extremely good, hot and clear weather. This had followed a period of weeks with hardly a drop of rain. A secondary inspection was made on 24th July 2018 concentrating more extensively on the internal fabric.

This QI inspection is the second inspection undertaken by Scott and Company on the building in question. It has been agreed with Mr Ian Wall and is an update of the inspection and report of November 2012. To make this is a useful and organic document, we have not repeated each and every description but have in red provided a commentary on the findings of 2012 with the update for 2018. The inspection whilst being the second QI reflects findings made on site. This is a limited non-destructive survey prepared by the same surveyor who undertook the inspection of 2012. It is both a comparative and visual update that reflects limited access and no destructive surveying.

The inspection is undertaken for the purposes of assessing the condition of the buildings as a whole. It is a one off visual inspection. It has been prepared with the benefit of some background information.

We attach to this report in the Appendices:

1. Copy of listing,
2. A set of plans including floor and roof plans suitably annotated with cross referencing for (a) roof slopes and (b) room names and numbers, (c) door and window referencing.
3. Photographs taken from 2012 inspection.
4. Photographs taken during the 2018 inspection.

These will be shown as thumbnails / photographs attached to the rear. Should a memory stick/disc be required of these for record and reference purposes, they can be provided.

To the rear of the report I summarise the major defects with an indication of when in my opinion, these should be attended to. Budget costings are provided updated from 2012.

To the rear of the report, is a summary of our findings highlighting major defects whilst providing an indication of timescale for repair. At the front of the report is a more brief executive summary.

Since the last quinquennial report was prepared, a review has been undertaken on the works needed. These are fairly extensive and should be approached either on the basis of regular cyclical maintenance and repair to extend the life of the various elements of construction, whilst inevitably putting off the time for major stripping and refurbishment both of the external and internal fabric.

The alternative which was looked at in the better days of public and museum funding, is to consider a more wholesale approach whereby the on costs of setting up a site and erecting scaffold is shared by bringing some works forward and including them as part of a major project whilst inevitably putting some further back. This approach needs to be discussed and agreed with Trustees, but we hope these documents will help to guide any debate.

During our various visits and for the purposes of undertaking the inspection and preparing the report, we had assistance from Mr Ian Wall and Michael Sutton for which we are most grateful.

As per the 2012 report, we go on the principal that the majority of defects arising with any traditional building of this ilk, especially one that has been adapted, extended and incorporated within adjacent buildings, arise because of external fabric failure.

Of greater importance to the wellbeing of the contents of the building, must be the envelope itself. We will concentrate and update this as against the 2012 report.

Inevitably with a building of this size, age and nature it was not possible to get to every nook, cranny, void and store. Should separate inspections particularly of those areas that were not covered be required, please advise the writer accordingly.

As with the earlier report, we will refer to the front River Street elevation as being the south, with the rear onto the Leats being north. The Old Chapel side is east with the railway side being west. This is not a true 100% accurate compass orientation, but it will ease the understanding of cross referencing made within the report.

Whilst preparing this document, I am conscious of the fact that the Royal Institution of Cornwall has limited funds for repair and maintenance work. This inspection and the advice contained within it, is undertaken and prepared with the aim of trying to advise on routine, cyclical and general maintenance. This is specifically not an advice on health and safety issues, public access nor fire safety which should be reported upon separately. Services and lifts are not covered by this report.

EXECUTIVE SUMMARY

The Royal Cornwall Museum and Courtney Library Building in River Street is found to be in satisfactory structural condition. No change.

There are however, extensive areas where regular cyclical maintenance has not been kept up and extensive replacement of fabric is required on the external envelope of the building to ensure that the rainwater and damp is kept at bay. This will not be entirely arrested with a traditionally constructed building of this ilk but substantial improvements can be made. No change.

The weathering of the roof covering has been compromised in a number of places and water is being driven in. Ultimately sections of the roof will require re-slating and replacement. Some areas have been patched. Fewer defects exist.

The ventilators, lead dressings and ducts running through the slating have been compromised. Water is getting into the fabric. These need re-designing and replacement. Ongoing.

The detailing on the flat roofs is poor and is not helped by the insulation and paving slabs. Access arrangements need to be improved. Drainage of the roof areas needs to be upgraded. Rainwater goods need to be improved. Major re-designing, reconfiguration and replacement is needed. No change.

Access for maintenance of difficult parapets and gullies needs to be improved and added to. Ongoing.

Outlets through parapet upstands need improvement with provision of new routes to reduce damp ingress and back up. Ongoing.

The thermal insulation of the building is poor and there are areas in the roof voids where we noted condensation. This along with problems of damp ingress will be adding to the environmental difficulties of high humidity within the building. A comprehensive review and replacement is recommended. No change.

High level timber work and joinery is in need of replacement where rotten, along with preparation and full decoration. Ongoing.

Some structural movement was noted internally and externally in both the new and old walling. The latter is, we believe, cyclical and not on ongoing, however, the former needs to be monitored. No change.

Internally a further more detailed assessment should be made of the principal gallery roof spaces with an assessment of the fixing of the ribs, framing and any glazed panels which have been papered or covered over. Access may be needed from both above and below. Still advised.

We noted cracking to the internal ceilings and walls. We do not believe this to be progressive in the older section of the building but as stated this should be monitored in the newer section. The building on this site inevitably will move bearing in mind the proximity of the river and the high moisture level below the foundation. The effectiveness of the steel frame insertions in the front section needs to be monitored. Ongoing.

Care will be needed over loading of the terrazzo concrete flooring. This is of modest thickness with what would appear to be limited reinforcing within it. This should be further assessed and the extent of reinforcing confirmed. No change.

The internal accommodation needs upgrading or replacement of surfaces, decorations and finishes. An upgrading or replacement of some of the existing services, lavatories and washing facilities should be considered. Part addressed.

We have excluded testing and commenting of the services, plant and equipment within the context of this instruction and report.

The main bulk of the report details our findings, observations and where necessary recommendations. These have been taken into the Summary Sheets at the back of this report which is split into internal and external work.

We summarise below the brought forward budget costs as a Cost Summary for the highlighted extensive replacement, upgrading and repair work detailed within the report:

BUDGET COSTS UPDATED FOR 2018

	Exterior Works	**Interior Works**	**Fees @ 10%**	**VAT@ 20%**	**Total Spend**
	£	**£**	**£**	**£**	**£**
Immediately	45,000	25,000	7,000	15,400	92,400
Within 2 years	650,000	155,000	80,500	177,100	1,062,600
Estimate Range	695,000 - 740,000	180,000- 195,000	87,500- 93,500	192,500- 205,700	1,155,000- 1,234,200

We would strongly recommend that additional budgets be allocated for routine and cyclical maintenance of the fabric.

We would strongly emphasise that this budgeting covers purely for the main fabric and excludes services, plant, environmental control, security, drainage and lighting costs for which separate budgets should be provided.

This costing is prepared as a result of and subsequent to the quinquennial report. Further investigation and opening up is needed which will inevitably affect the budgets. No contingency allowance for any unforeseen work has been included.

We would strongly recommend the minimum amount of further investigation as detailed below: Still needed.

A. Steel roof structure and wall supports
B. Glazed ceiling structure and supports
C. Ground floor structure, reinforcement and loading potential to include canterlivered upper main gallery
D. Monitoring of movement cracks to walls in both the new and old structure
E. Drains, services and environment

To all costs should be added:

- finance costs for cashflow
- additional consultants costs
- health and safety costs
- information and interpretation or PR costs

EXTERNAL CONSTRUCTION AND CONDITION

Roof Slope

We would refer you to the roof plan attached to this report. We have adopted the roof referencing numbers contained therein which we have added to slightly for the purposes of cross referencing to other elements of construction.

ROOF AREA R1 (Library)

South face

The south facing roof above the main facade of the Museum building is covered with what appears to be an asbestos fibre reinforced older slate. This is tail clipped. There is a considerable amount of moss and lichen on the roof which is gently falling into the lead parapet gutter. This needs to be carefully removed on a regular basis and the gutters kept clean.

There is an intersecting valley which breaks the roof area that runs up to the back of the principal elevation pediment. This has been re-slated with a more modern eternit style fibre reinforced slate which we believe will have been installed at the time of the lead capping on the front elevation.

Again there is a build up of moss and lichen which should be removed.

We would note that the older slating has an insufficient cover lap to the head under the ridge line. When laid, a further course of slating should have been provided. This makes the upper ridge board vulnerable to moisture ingress and damp within.

The south face still has a considerable amount of moss and lichen. Asbestos fibre slates have been retained, there are repairs needed. The parapet gutter and outlets are choked with debris and detritus. There will be an overspill situation and blockage of the outlets should a downpour occur.

There are still vulnerable areas of water ingress due to insufficient cover lap to the ridge line. Some areas of lead dressings show a sagging of the clips and dressings which need to be reset. A general overhaul is recommended.

North face

This is a continuous slope dropping down to the valley gutter between the main central Museum galleries. Again this is of fibre reinforced asbestos with tail clipping. There is excessive moss and lichen growth which needs to be removed as detailed above. The upper coursing is mean and there is inadequate cover to the ridge line.

There have been some repairs here with modern fibre reinforced slates. This is following impact or storm damage.

Here a number of areas have been patched. There are slates which have slipped and become displaced, some clips have become loose. Excessive moss, lichen and buddleia growth needs to be cleared. This is causing a blockage to the gulley below. Again the ridge cover is mean.

ROOF AREA R2 (Philbrick)

R2 West Facing Slope

This is a relatively low pitched natural slate roof. It would appear not to be felted. The slating is damaged to a number of places and we saw evidence of saturated felting battens. The cover and lap at low level appears to be compromised in some places both due to damaged slates and possible running repairs along with the insertion of a lower felt to the gutter line of which below.

Copper wires have been strung across the roof to try and eradicate the moss and lichen growth. The wires are much too thin and ideally a copper tape similar to a lightening conductor tape should be provided. This could compromise any lightening protection or indeed attract lightening to the Museum. A review of lightening protection and conditions insurance policies is recommended.

The upper courses again, do not have sufficient dry under the ridge tile. The ridge beam will be compromised and water will be driven in here causing problems to the interior. This, as elsewhere could increase the risk of wet rot to any structural roof timbers. This needs to be accessed and inspected and ideally the ridge taken off and a further course laid on top.

We saw some areas where slates had been nailed through the outer side of the slating to try and re-secure them. We also saw areas where some of the slipped slates showed very low nail fixings. This, if found to be consistent across the roof area, will mean that the slating cannot keep the roof area dry and there is every risk of water being driven in underneath the slating through the lower nail fixings into the roof area. This will be more obvious after heavy storms and high wind.

There is no evidence of damp within although no rectification work to our knowledge has been completed. It was very dry. The nailing through the outer side of the slating appears to have been rectified with some replacement slates being inserted. The roof is reasonably competent but clearly still vulnerable to moisture ingress.

R2 East Face

This is the same finish and condition as the west face although there are slightly less areas of damage to the slating. Our comments on this are the same including (a) copper wires, (b) inadequate lap at the ridge. To be fair there is less moss and lichen on this face.

As west face comments throughout.

ROOF AREA R 3 – West Face (Main Gallery)

This is the largest roof area on the building. We assume that its base condition is the same and our comments will be relevant to both slopes.

The roof covering is of a natural Cornish slate. There is a build up of moss and lichen. Copper wires have been strung in three places. Our comments ion R2 should be noted.

The condition of the slating is reasonably sound, it sits well and there is little evidence of undulation, movement or deterioration to cause concern. Where checked, the slates appear to be fairly tight. We would however note, with the moss and lichen growth on the slating that water will be held on the slates for much longer than should be and they take longer to dry out. This will accelerate the rate of deterioration, powdering and exfoliation of the slates making them more vulnerable to deterioration from below whilst also reducing the possibility of re-use and salvage for any re-nailing. At present, this is certainly not required.

The roof rises to ventilators on the ridge line. The size of slate on this roof is considerably smaller being possibly 16” x 8” than that found on the R2 which is more likely to be 24” x 12”.

Again, no action subsequent to the last QI. Same consistent comments apply. There are some minor damaged slates with broken edges, but this does not appear to be compromising the weather resistance in all but a very few locations. There is some evidence of slate slippage which could indicate nail sickness. An increased allowance for routine repair on this and the opposing slope should be considered.

ROOF AREA R 3 – East face

This as with the opposing side is of natural slate. It has been re-slated using what appears to be Cornish regular dry laid slate. It would appear to be slightly larger than the opposing west face. The coursing shows some irregularity with the possibility that some of the batten fixings are beginning to slip. This needs to be checked and carefully monitored. The ridge line was sound rising to a rolled ridge with ventilators.

We do not believe the slating and batten fixings have been checked. See previous comments.

ROOF AREA R 4 – West Slope (Archive)

Again, this is a new roof covering with natural slating which would appear to be of Cornish extraction. They are a slightly thicker slate than found on the east facing R3 but of the same size. There are a number of slipped and displaced slates that require re-setting. Being a natural material, some of the veins have failed and some of the nail holing has cracked. There are ventilators near the ridge line (2 in number) which are provided with lead sleeves. These have moved from the sleeves and water will be getting in down between the inner pipe and the lead sleeve. This needs re-sealing and properly weathering.

Consistent condition, no variation in comment.

ROOF AREA R 4 –South Face

This is a hip end, natural slate, dry laid, sound.

As before.

R4 – East Slope

Wide valleys. This is of new construction and covering. Some minor lifting of slates under the roof line and a few slates missing which require reinstatement. Again a build up of moss and lichen which would be worth removing.

Again, check the roof area, reset any damaged or displaced slates, clean lichen as before.

R5 – West Face (Chapel)

This roof is in two parts. It would appear that there is a mix of slating. The west face northern end has lead soakers joining it to the remaining two-thirds. A reclaimed Cornish slates has been used, dry laid of reasonable size. Beyond this to the south face, there is a mix of some salvaged slates and imported Spanish slates. They are very dark and very brittle. It would appear that the lower coursing has been stripped off and replaced with patching on the upper coursing. Some of the slates would have been fixed in with tingles, others with a mastic fixing grip. This is not good. There are a number of broken and damaged slates which need attention and many which show signs of failure through the veining. There was slippage on the coursing indicating nail failure. The imported slates were extremely thin and vulnerable to damage. The coursing of the slating seems to vary across the roof area with a possible compromise to the dry or cover of the slating between the courses. This needs to be further reviewed. The roof covering requires some further stripping, assessment and fairly extensive replacement. The east fact could not be seen.

Comments consistent. No work undertaken beyond minor slate resetting. As 2012.

R5 – East Face - inaccessible.

RIDGES

RIDGES TO R 1 (Library)

The main roof runs parallel with River Street with a right angle turn to the front pedimented upstand. Ridges are a black glazed clay ridge tile bedded in mortar. These are reasonably competent. The jointing is sound. There has been some thermal movement and minor exfoliation of some of the butt joints but generally serviceable.

No change, as 2012.

RIDGES TO R 2 (Philbrick)

Clay ridge to apex bedded in cement mortar. Serviceable.

Again no change to 2012.

RIDGES TO R 3 (Main Gallery)

This is a glazed roll top ridge running north south. These have been re-used and re-bedded following the re-slating of the east facing R3 and possibly re-nailing of the west facing slope. They take a good line. They run up to the ventilator. Serviceable.

No change to 2012.

RIDGES TO R 4 (Archive)

These are a more modern, dull, flat, extruded, black unglazed tile used here on the ridges and hips with hip irons on the ends. Bedded in cement mortar. Serviceable. We would note that all the ridges provide roosting places for gulls and consideration may be forwarded to further bird protection.

As 2012. Some more open jointing between ridges. Minor pointing will be needed.

RIDGES TO R 5 (Chapel)

This is a natural unglazed terracotta tile bedded on the roof in a cement mortar with fairly extensive under pointing and joint pointing. In places this is beginning to crack. This needs to be monitored as further minor pointing will become necessary in time. It is slightly uneven but quite serviceable.

Pointing where cracked and failed recommended as before.

CHIMNEYS

C 1 and C 2 (Library)

These service the end gables of the main front entrance building servicing fireplaces below which we believe have been removed. The stacks have been pointed and a lead capping has been provided under the upper course and over the cornice oversail. It is possible although cannot be confirmed, that a lead tray has been provided at the ridge line with dressing of lead over the cover flashing and to the coping stone. Serviceable. The stacks have roll top ridges capping the two flues per chimney. These are well bedded. A good lead upstand and detail is provided within to maintain ventilation. This should be checked and maintained from within.

Here as with much of the lead, minor re-dressing to the masonry soakers and weatherings as recommended.

C 3 (North end of Archive Roof)

This is a modern flue servicing we believe the boilers and heating system below. It would appear to be constructed of block work with lead flashings, cast capping and render finish. Serviceable.

Sound.

LEAD VENTILATORS

We have referred to the ventilators (4 in number) set within flat roof area S2 to the west of the assemblage. These sit on lead clad capped collars with a lead decking and then have a vent pipe rising from the roof area with a simple China man's hat capping. The weathering of the head of the vent pipe is totally inadequate and water is inevitably going to get driven in through the vent pipe to the void below. The route of this needs to be checked but it is quite possible that water is being driven into the void affecting the structure below. This could also be affecting any plant within.

These have not been attended to. The weathering is poor. Some of the capping is slumped and water is settling within it. These are still vulnerable.

Roof Ventilation

We have noted the ventilators on the west facing slope of R4 and the need to seal the pipes rising through the collars. Again water is being driven in through these. (V5) Below this is a vent (V6). Slating has slipped around this. This requires re-setting. The capping is competent. There is a soil vent pipe beyond that (V7). Competent.

Ongoing evidence of stress and movement on weathering here. We believe this is still vulnerable to water ingress.

RIDGE VENTILATORS

RV 1 and RV 2

These appear to have been reformed. They look as if they have been made from a composite board with a lead roll capping. They need to be accessed, clean and decorated and repaired or replaced. Originally these would have had a copper or tin ventilator with appropriate weathering details inside to ensure that rainwater is not driven within. This could not be seen from the roof areas and we suspect that water is driven into this area and then runs down the roof structure within. This needs to be further assessed.

No action has been taken here. Again recommendations hold.

DORMERS AND SKYLIGHTS

There are two skylights in roof S6 being Velux style. They are set into the steel profile welted roof. There is moss and lichen on them, they need cleaning, easing and maintaining. The welt is very close to the collar upstand and is blocked with moss. This needs clearing.

The laylight LL1 in roof S3 is failing and water is entering at the perimeter, this needs to be redesigned and replaced.

Two skylights still dirty and poor. Require cleaning and removal of moss and lichen and checking of weather seals and dressing.

The laylight LL1 has had modest patching. This and the area around it is still poor and vulnerable, there is evidence of damp ingress around. Polycarbonate sheets are becoming opaque and brittle and the weathering and seals look to be compromised.

COPING STONES

The principal south facing pediment has a raised coping stone with moulded granite dressings below. This has been clad in lead work which has been clipped and mechanically fixed. This is dressed internally and externally down to the pediment return and cornice oversail. Coping stones are in sound condition.

CS1

Over cladding sound, functioning well. There is some evidence of minor creep.

CS2

This is the west facing coping stone on the gable upstand from the principal front block. It is formed from large granite, butt jointed and pointed. Behind this is lead flashing and under dressing weathering the wall head. Serviceable. Minor pointing required to the open jointing.

CS 3

As CS2 above.

Buddleia and other plant growth has got a hold on the jointing. Some of the jointing is beginning to open along with loss of key to some of the back pointing to the lead. A general overhaul of all sections for CS2 and 3 is recommended.

CS 4

This is the gable to the old Chapel. There is a massive coping stone on the Chapel gable onto River Street. The joints are well positioned the stones would appear to be stapled. The back is provided with a steel profile weathering to lead dressing of soakers. Serviceable.

No change, serviceable.

PARAPETS

P1

This parapet rises above S1. it is capped in a steel profile to the wall head. To the outer side is lead dressing and the inside is mineral felt. Serviceable.

Sound. Minor thermal displacement but competent.

P2

This is a simple oversail cornice parapet gutter both on an inner and outer format which is lead lined. Access difficult. Where seen off ladders, serviceable.

This would appear to be sound but check lead weathering and clear organic matter.

P3

This is a modern granite infill section between the Chapel and the Museum building. Modern granite capping with sealed profile behind weathering the rear down stand. Serviceable.

Parapet Gutter P3

The parapet gutter runs under roof area S6. This is stepped and is in profile steel discharging into two sunk internal rainwater pipes which discharge through the walling to hoppers to the exterior. The detailing here is particularly poor and vulnerable to blockage. There is an overflow pipe which could get blocked but this is too high up to be effective. If this happens water accumulates in the parapet gutter and then spills into the building. This needs to be modified. This area takes the rainwater from half of R1, half of R3, two-thirds of R4 and part of R5. There is a large amount of water discharging to two outlets. Modification strongly recommended. Redesign and replace.

This parapet gutter has still got problems of discharge with blocked outlets and considerable detritus. There is minor creasing to some of the profile sheeting which is indicative of thermal stress. Our comments in 2012 still apply.

P4

Asphalt dressed from S2 with outer bead to masonry face. Serviceable. As this progresses against Elizabeth House it is lead clad. Serviceable.

Ongoing issues with thermal stress and cracking to the asphalt. In the short term this needs sealing, in the long term re-dress with lead or provide coping cap. The lead against Elizabeth House gives the impression of slight creep. Monitor.

P5

Upstand to north west corner and return. Mineral felt capping on masonry head. Recently applied, serviceable. This runs through between the north face of S2 and S3.

With the passage of time, this is showing a little thermal creep although is still competent.

P6

Mineral felt clad face on north side. Serviceable.

We would note that all these mineral cappings and flat roof coverings are modest in form. They have limited life expectancy and become brittle as they decompose. An allowance for regular inspection and re-covering should be made of all this form of capping which has a short life expectancy. Budget to redesign and replace.

Still satisfactory. See general comments.

LEADWORK

The building has had a fair amount of re-leading work undertaken in the recent past.

Lead dressings have been provided on the cornice oversails to the front south elevation and returns. These have been mechanically fixed, welted and welded. It has not been the easiest of sections to deal with but the leadwork as seen appears to be sound and in good order with no signs of stress cracking, movement or failure to cause concern.

As stated, some lead dressing has been provided around chimneys C1, C2 and C3. We believe partial lead tray work has been provided with new cover flashings.

The lead cover flashings to the coping stones require minor pointing in under and behind the stones.

Lead dressing has been provided against Elizabeth House on the west face of R2. This is well detailed and servicing the building adequately.

Lead vents are provided around roof area R2, being V1, V2, V3 and V4. Our comments about weathering of the capping and the restriction for water out flow should be noted.

Lead dressing is provided around the upper ventilators on R3. Serviceable.

An internal valley gutter is provided with steps, discharging rainwater to east and west behind roof area R1 north slope. This was accessed and appears to be sound and in good order.

Lead flashing and weathering details are provided under the barges to weather the slate hanging on the gables of R2. These require minor re-dressing to the slate line. Soaker details to the ventilators have suffered minor damage and require running repairs.

Lead collars have been provided to various ventilators on R4. The weathering is poor.

Crude flashing details have been provided under the gutter line on the west face of R4. These need re-setting.

We noted a number of crudely dressed valley outlets under the slate line where the woodwork has not been properly protected and has rotted. This require re-detailing with improved lead dressing.

Lead dressings are provided to the ventilator terminals on the west face of R5. The lead flat is provided below the access walk way. This is used as a regular access point and the dressings to the rolls are being compromised. Again here is a build up of debris and detritus which needs to be removed. There is some evidence of creep and stress cracking. Constant dripping of water from the plant and pipes here along with the rather random storage material that needs to be reviewed. The redundant pipe runs and cabling should removed and consolidated.

The lead is dressed under the gutter line of R5 on the west face with change of level. Some sections are slipping and require re-setting. Lead continues to the back of the parapet to P3. This is set under a steel profile capping.

The lead to the abutment of the gable below chimney C2 has also crept and require re-dressing.

There has been no change or improvement to the lead work at all. We did see some further stress cracking in the lead and consistent need for checking where this is pointed in to the masonry, coping stones, parapets etc. In places this is loose and will be compromised. We re-iterate our comments on chimneys, cover flashings, Elizabeth House, ventilators. There is considerable debris and detritus on the internal valleys that needs cleaning to facilitate a more detailed inspection. We re-iterate our comments about the ventilators and lead dressings to the east face of the Chapel roof.

Again, there are ongoing problems of outlets and lead discharges and pipes and hoppers which are getting blocked. If not maintained and cleaned properly the lead work and roofing will not function properly.

RAINWATER DISPOSAL

We would comment generally on rainwater disposal on the building which is not particularly good. Progressing from the west face towards the east, there are two outlets on the west side. One discharges through the parapet P5 on the north wall west corner below roof area R2, the second one is on the south end of this run. Plastic guttering has been provided to service roof area R2 and R3. This takes a lot of water away from the lower decking but we would note that the guttering being plastic and inappropriately secured, is defective for a number of reasons as below.

(a) It has sagged badly and thus detritus is settling within it causing a blockage.

(b) It is very low to the slate line and water is getting driven between the slate line and the guttering causing rot to the back boarding and fascia.

(c) The rainwater pipe outlets discharge through the parapet walls causing a potential blockage especially when at deck level. This could cause a back up and cause problems of flooding from within.

(d) Screw fixings to hold the gutter and downpipes together go deep into the pipes again causing a potential for blockage.

We are of the opinion that the simplest way of dealing with rainwater on the roof is to remove the amount of potential areas for blockage. We are concerned about:

(a) The paving slabs and insulation.
(b) Limited exit points.
(c) Potential for blockage of outlets through parapets.
(d) Potential for blockage when rainwater goods sit on the roof areas.
(e) Potential blockage through the rather Heath Robinson guard rails to the roof areas.

We believe that a review of rainwater discharge onto the flat roofs and parapets is needed to try and simplify the situation. We would also suggest that an increase in size of hoppers, downpipes and rainwater goods servicing the roof areas should be considered.

We noted a number of the hoppers are the older style cast iron units. The fixings of these need to be reviewed.

Much replacement aluminium guttering has been provided. Again, some of the detailing here is poor and there is evidence of blockage, seepage and oxidisation of the coated aluminium which is causing problems and leakage. This need to be reviewed.

Some of the detailing on the west side of the building is somewhat convoluted and we believe that with the downpipe detailing, there is the risk of water getting in behind these into the fabric. Damp has been seen from within.

Some of the downpipes seem to be set into the rendering with mastic sealants around them. These are vulnerable areas for moisture ingress and need to be reviewed.

Progressing to the west face, again aluminium profile gutters are provided to service the high roofs to R4. It is difficult for access and has build up of plant growth on it.

The guttering to R5 west face is plastic and sagged. Our earlier comments apply.

The parapet gutter to the infill between the two older buildings is incapable of taking flash flooding and needs further improvements for an overflow discharge.

The outlet for the parapet gutters to the south under the south face of R1 discharges to hoppers on the return corners. These are serviced by a very small lead shute pipe which could easily get blocked. There is evidence that there has been overspill here and damp in this area. Originally we suspected a considerably larger hopper was provided.

We would note that there is a very awkward area of guttering between the north end of the west facing section of reclaimed slating to R5 set below roof No. S7. This forms a very narrow gap which pigeons access. The cleaning of this is almost impossible. We strongly recommend that this be closed over with decking and a lead lined gutter to take the rainwater in a northerly direction. This would provide easier maintenance for cleaning and improvements to weathering. This will need to be carefully accessed and planned to facilitate the work.

A major review of the rainwater goods and drainage is recommended with a recommendation to redesign and replace with units suitable for the purpose.

We do not believe that any upgrading or maintenance work has been done on the guttering. This is still choked, overloaded, sagging and suffering from the defects as listed above. Our comments and advice stand.

FLAT ROOFS AND ASSOCIATED PITCHES

Roof Area S 1 (Barham Room)

This is a lower roof bounded by a simple parapet with lead clad cornice oversail to the outer faces. The roof area is on the south west corner of the building.

This was not accessed and only viewed from above.

The roof covering appears to be of built up mineral felt with an over cladding of insulation and paving slabs. A perimeter gutter is provided around the edge running to an outlet on the west face.

There is a build up of moss and lichen around this roof area. A more permanent replacement fixed access arrangement should be considered for maintenance.

We wish to comment here on the use of paving slabs and insulation across the roof areas generally. We are advised that the insulation has been provided under the paving slabs to try and improve the thermal performance of the building. Paving slabs have been laid over this to keep the insulation down whilst to a degree, providing a walk way over the roof area.

In a modest way it does protect the under roof covering however, it makes maintenance and the natural discharge of water particularly difficult. Water is sitting underneath the insulation and inevitably seedlings get into the gaps and plants grow in this silty damp environment. Improvements have been provided to try and take the rainwater away from the flat roofs by providing plastic guttering and directing any rainwater to outlets. Further comments on this are made elsewhere. A major redesign and replacement is recommended.

Whilst this paving slab and insulation proposal may have seemed a good idea at the time, we would question its effectiveness and would strongly recommend that when any replacement flat roof coverings are provided, that an allowance be made for insulating the voids and providing improved thermal performance in the more standard fashion.

To the north end of this roof area there is a sloping section which is provided with mineral felt. This provides an area for a build up of organic material and plants. This is poorly detailed. The felt weathering coat is wearing and requires replacement.

The outlet shows some modest damp which is surprising as there has not been any rain. There must be residual moisture kept under the slabbing maintaining the weed and other plant growth which is evident. This is of concern.

Our comments on this roof area from 2012 are consistent and hold. No improvements have been made.

Roof Area S 2 (Philbrick)

This goes around the four sides of pitched roof R2. The greater part of this is concealed under the paving slabs and insulation. At least three-quarters of this is what appears to be a asphalt roof deck dressed underneath the slate line and painted with a silver reflective coating. To the northern end, repairs have been put in hand and a mineral felt has been applied possibly over the asphalt. The asphalt has been dressed up over the parapets as well as under the slate line. At the north side this has been over clad with mineral felt. We saw evidence of stress cracking through the asphalt outer surface specifically on the west face. This could not be checked underneath the insulation and paving slabs. Replacement should be budgeted for.

There has been some creep of the asphalt over time. Minor replacement may be prudent but at the present time we do not think that this is proving problematic.

The roof has been broken by the insertion of four ventilators. These sit on raised boxes or collars with lead capping over and then a lead vent pipe with a china man's hat positioned on top of this. Further comment on these will be made in the lead work section.

The positioning of these vents, particularly on the west side does restrict the discharge of rainwater and provides a very good place for blockage and backups. This should be modified and replaced.

Again, no change here. As with R1 the insulation is beginning to deteriorate. The competency of this and the slabbing is questionable. There are increased cracks through the asphalt reflecting thermal movement. The security of the handrail is questioned. Again considerable organic matter that needs to be cleared.

Roof Area S 3 (Learning Store)

Again an asphalt with insulation and paving slabs as S1. Similar comments apply. This drops down to a pitched roof set to each side of a lay light (LL1). The asphalt has been crudely weathered to the side parapets and the lay light. Patching has been put in hand due to earlier failures. This needs to be further reviewed and the weathering detailing around the lay light needs to be replaced. The quality of this is poor.

No work has been done here. Our earlier comments are maintained.

Roof Area S 4 (Main Stairs)

This is to the north face. Again, asphalt dressed as with S1. Insulation and paving slabs over. Mineral felt dressings have been provided to the perimeter, parapet, upstands and dressings to S5. it is possible that the complete area could have been re-felted under the insulation slabs, this could not be determined. Again this is a very mucky and difficult area to maintain with limited access. It is a good point for nesting birds and is designed for blockage and overspill. This needs further review and amendment.

As 2012.

Roof Area S 5 (Lantern over Main Stairs)

This is actually a pitched roof set in the midst of S4. It is four sided hipped, natural slate with moss and lichen. It is sound and serviceable although there are a number of slates broken and require a replacement. It is in a reasonably protected position. The cover is modest to the ridge line but serviceable in this location.

As 2012. Serviceable.

Roof Area S 6 (Curators Office)

This is both east and south facing being hipped wrapped around the link to the Chapel building. It is of a welted steel covering being of modern construction. Access across it and to the higher roof areas is difficult. Maintenance of the upper gutters is awkward. The roof covering itself appears to be sound and serviceable.

As 2012, however, this does show some signs of creasing and thermal stress. Remove or attend to organic matter.

Roof Area S 7 (Sara's Patio)

This is a mineral felt roof with air conditioning plant on it sitting on the insulation and concrete slabbing. Our comments and concerns about this should be noted. There is extensive plant growth on this including docks and buddleia which have a very persistent tap root. This is going to compromise the weather proofing of the decking below.

This area is certainly getting worse and has been badly maintained and has nettles and other plant growth on it along with other organic matter. The dressings and detailing are getting vulnerable. This is an area that should be regularly accessed for plant maintenance but does not seem to be top on priority for fabric maintenance. Earlier comments apply.

Roof Area S 8 (Portico)

Portico roof to entrance porch, south elevation. This roof is letting water in which needs full access and upgrading. A detailed ladder inspection was not possible.

Not accessed.

Roof Area S 9

This is the internal valley between R 3 east and R 4 west. This roof area was absolutely clogged up with moss, detritus, nesting material and standing water. The roof covering is of a Sarnafil sitting on decking which appears to discharge rainwater to both north and south. This is a very difficult area to access and improvements need to be made. As far as could be seen the membrane appears to be sound and serviceable although the cover flashings underneath are four west facing, had slipped and require re-setting.

This area has now been cleared and is relatively easy to access and clean.

Roof Area S 10 (Over Workshops)

This mineral felt flat roof to the rear north elevation is of poor detail which rainwater discharging onto it. This needs programming for recovering with attention to the decking, fascias and weathering.

Generally there are areas of flat roofing that should be budgeted for redesigning, upgrading and replacement throughout

Not accessed.

MAIN WALLING

Southern Elevation

This elevation is broken into three parts:

1. The principal section is the main entrance to the Museum. To the west of the principal facade is a two-storey granite faced extension.

2. The main block is joined with the new link section.

3. Beyond this is the pedimented gable of the Old Chapel building which is now incorporated.

The principal southern elevation is all constructed with grey granite facing stone which is well cut and coursed. The link has granite slab facing purely as a cladding with no depth to it.

Progressing from the west end the upper cornice oversail is showing signs of damp running over the cornice possibly from an overflow on the upper south west corner. This needs to be further monitored and upgraded. The walling is sound and in good order.

Progressing to the central section of the older building which is formed in five bays with horizontal courses and capitals of a fairly simple format supporting the pediment. The stonework is sound and in good order with no signs of adverse movement or deterioration. The pediment and cord along with the cornice oversail are over clad with lead as detailed above. The central portico has a fine pair of ionic columns holding the entablature and cornice. The capping is lead clad. There is open jointing in the stone work sustaining damp which in turn is allowing ferns to grow within it. This is a clear indication of damp ingress into the core structure which needs further access and pointing in if the joints.

Progressing to the link building, the cladding panels have open jointing to the granite masonry which needs to be raked out and re-pointed.

Beyond this is the principal elevation of the Chapel building. This is set under a pediment with a broken cord. It is in three bays with a central doorway and large arch headed windows. The side doors are now redundant. The stone work is of granite, well coursed and jointed. This is found in good condition.

There is evidence of overspill from cornices and rainwater outlets, gullies and hoppers, all of which is staining the fabric and causing problems of damp which should be addressed.

With the strong light, we noted some displacement of stone work over the principal older section of the Museum and the granite facing between ground and first floor windows. This does not appear to be progressive but should be monitored. We believe some movement was noted internally.

Side Eastern Elevation

Progressing to the exposed section of the eastern wall of the Chapel, there is a small access side alley. The walling is broken into six bays with a return link beyond. The redundant windows have been blocked in and rendered over. Rendered panels have been provided below in the middle two bays. The stone work is of local Killas. It has had some lime patch pointing on it but only a modest amount. Further pointing of this flank wall is required as a matter of priority. The rainwater goods above are blocked and water is overspilling. This will be adding to the problems of damp and saturation noted within and above.

No work has been undertaken here. The jointing is very open and has been suffering from overspill of rainwater goods. Priority of re-pointing here is needed as detailed before.

Rear Northern Elevation

This elevation has had an over cladding with a soft mesh reinforced render on we believe some form of insulation. This has been added to the older sections of the building on the western half. There has been much impact damage on this especially on the north west corner. Rather bizarrely the render seems to have been taken over wooden sills. This will inevitably encourage rot in the timber work. The detailing here needs to be further assessed with an allowance for ongoing repairs. This will impact the moulding detail around the windows.

The lower rendering requires re-execution at road level.

As stated earlier a bollard protecting the north west corner should be provided to stop impact. This will need Highways approval.

Progressing to the back of the link building, this appears to be of traditional construction on a brick plinth with cast concrete work and render. The base of the chimney stack has been hit and the bricks damaged. This needs to be repaired and monitored.

There is some minor cracking through the rendering here. Similar rendering has taken over the mid part of the western middle range. There is a horizontal crack possibly due to thermal expansion or lifting of a steel. This needs to be monitored.

Progressing further to the rear of the Philbric Memorial Wing being the rear of the Chapel, again it seems to have a cast concrete frame with block work and render. Internal movement cracks would suggest a gentle spread on this corner which needs further opening up and investigation and monitoring.

Little if no work has been undertaken here with damage at low level to the sills, render returns etc. All as previously noted. The wooden sub sills are now rotting badly. There is damp retained in the core behind the insulation cladding which is proving to be fairly ineffective. Major damage to areas should be repaired with possibility of extensive re-rendering.

In the new section of the building, there is still evidence of minor hairline cracking, but this does not appear to have got any worse, particularly as seen in the Philbric Memorial Wing behind the Old Chapel.

West Elevation

As with the east elevation, this is partially concealed by adjoining buildings (Elizabeth House). Where exposed the walling is largely render on solid masonry with exposed granite quoins. The west elevation of the extension has been lined out in a very plausible way. Sound and serviceable.

The smooth render abutting Elizabeth House has steels dressed within it which in time will rust and lift the walling. There is some hairline cracking which also will allow water to be driven through. This will be retained behind the dense cementitious vapour impermeable render.

The overflow pipes need sealing where they have been drilled through the walling.

We reiterate our concerns about the abutment detailing and overflow of rainwater goods in this corner. A further assessment is needed.

FASCIA BOARDS AND BARGES AND SOFFITS

The building has a number of timber facsias and soffits at high level. These are in a poor condition and desperately need cleaning down, preparation and redecoration. There is a lot of rot in the timber work that needs to be cut out and replaced. Detailing of abutments to the lead work and slate oversails and guttering all need to be attended to.

One section of guttering on the east face of R2 (Philbrick) has been fixed to new fascia which has not been painted or treated. This will rot prematurely and needs replacement.

The fascias and timber weathering details in the roof line on the north elevation are poor and need substantial attention.

No repairs, our 2012 comments hold.

EXTERNAL JOINERY, WINDOWS AND DOORS

Southern Elevation

This has been well maintained although it is in need of a redecoration. We noted that a number of the window sills are showing signs of wet rot at low level and to the side box framing. This will need to be carefully cut out and spliced repaired. Attention will also be required to the pulleys, opening mechanisms and locks. Running repairs will be required to the glazing putties prior to redecoration.

The windows on the Chapel elevation are more complicated with more glazing bars and smaller panes. Again, these show signs of being hungry for re-painting with attention to the glazing bars and putties. Our earlier comments apply.

A detailed ladder inspection should be undertaken of all windows prior to programming the decoration cycle and repairs. The windows were not opened internally due to displays, security etc.

Eastern Elevation

There are no low level windows on the east elevation. Window and door on the east elevation.

North Elevation

The rear elevation, north has a number of Crittall steel framed windows set in wooden sub-frames. Some still retain some of the older wooden casements. The Crittall steel windows are in a poor state of repair and require major cleaning down, de-rusting and repairs and/or programming for replacement. The doors and frames require repairing and attention prior to redecorating.

Some of the lower timber framing is also showing signs of softening and the need for splice repairs. They all need redecorating.

Western Elevation

The west elevation has three windows, two first floor and one ground floor and a side access door. These are in reasonable condition. They were not accessed internally nor open.

As a general point, we would note that some of the windows and frames are in need of re-sealing and pointing to the masonry.

Our comments about repair and maintenance to the fascias and high level joinery should be noted.

There are some high level windows, skylights and units to the upper offices. These are modern units. We noted that they need running repairs and attention to the gaskets and sills, opening mechanisms. These are not maintenance free.

There are some upper lights to the central galley. These are in reasonable condition although they were not inspected in detail partly due to external claddings. An allowance for minor running repairs and redecoration should be made

Generally we would recommend repairs to the principle sliding sash traditional windows with some replacement to improve thermal performance. The steel frame windows should be programmed for replacement and upgrading thermally and for security all subject to statutory approvals.

It would appear that no decoration work has been undertaken on the principal windows and doors. These are all in dire need of ongoing splice repairs, overhauling, preparation and redecoration as detailed previously. No change.

PATHS, BOUNDARIES AND ACCESS WAYS

Access to the Museum is off River Street. Steps rise to the main entrance way. These are gentle with a handrail. Minor pointing is required to the open steps and pavings. The rough crazy paving slate to each side of the path needs attention. It would be prudent to consider replacing this with a more appropriate granite slabbing.

A gentle path leads in front of the link to the Chapel entrance. Again, minor pointing of open joints.

The front railing onto River Street requires cleaning down, treatment and painting. Minor pointing is required for lower plinth stones.

Coping stones to the garden area require re-setting.

To the north, access is immediately off the highway. There is no separate curtilage.

Handrails are needed to the steps between areas to the front.

Same repairs are required with further work to paved areas, cappings and retaining walls whilst paying attention to replacing. The planting is well maintained.

INTERIOR

A visual inspection was undertaken of the interior accommodation of the museum, gallery stores and ancillary accommodation. This was taken from floor level.

We confirm that we have not undertaken any opening up nor destructive surveying. Further inspections may be necessary.

This report does not comment upon internal services, heating, plumbing, electric. These should be tested in compliance with current public and health and safety policies and as required by Directors and insurers.

ROOF VOIDS

Limited access was given to the roof voids. Minimal access provided throughout.

Roof Void R1 (Library)

Limited access. New steel structure on columns and bracing. Inadequate insulation. Further access needed by arrangement.

Roof Void R2 (Philbrick)

Gang nail plate truss on raised shuttered concrete collar supported on steel framing with ladder strutting across supporting glazing. Later 1990s gang nail plate added, replacing lantern or glazed structure unknown.

Water getting in the corners due to poor detailing at low level. Re-detail behind secondary fascia. Possible condensation. Possible water entry through Chinaman's cap and lead vent to ventilators below (ref. external section of report).

Roof Void R3 (Main Gallery)

Steel frame lightweight trusses supporting an upper slated area with what were glazed panels to mid span. It has been braced with steel ties and bars at a later stage. The lower level has a cast concrete beam, which seems very heavy for the truss blade. Rust appears to be occurring where it is dressed into the lower wall, particularly on the east face. Further investigation needed. Roof void insulated. Ventilators are provided. There is some evidence of earlier damp around them.

Roof void R 4 – See Room 5.01 (Archive)

Roof void R5 – See Room 5.09 (Chapel)

LEVEL 5

Room 5.01 - Archive

Ceiling	plasterboard to rake. Minor cracking. Damp staining to the north and east. South and west block have shrinkage cracks. Steel frame and purlins.
Walls	stud. Dry lining and block work.
Floor	vinyl sheet.

No change.

Room 5.02/5.03 – Vestibule

Ceiling	raked. Plaster to purlins, galvanized, running to the ceiling.
Walls	to staircase (north) solid plaster to the west. Block to south and east. Movement cracking below steel bearer with cast lintel. Possible tracking and blistering on lintel following damp.
Floor	vinyl on suspended.

No change.

Room 5.04 – Boiler Room

Ceiling	raked. Plastered. Question fire line. Minor shrinkage to purlins and blockwork.
Walls	painted block. Movement crack in corner return under steel frame bearing.
Floor	vinyl sheet, suspended.
Other Comments	the space is vented. Boiler valve, pressurization vessel etc was not inspected.

No change.

Room 5.05 - Rear Stairwell Upper Landing

Ceiling	raked. Galvanized purlins. Shrinkage to timber.
Walling	stud to south. Part block back to boiler. Block outer north and west.
Floor	landing and staircase.

Other Comments — shrinkage cracks to blocked ceilings. Cracking to side of chimney stack off landing.

No change.

Room 5.06 – Upper Office

Ceiling — Plaster and galvanised purlins.

Walls — Block and stud.

Floor — Suspended.
Access door to roof void.

No change.

Room 5.07 – Lift plant room top

Block work with minor cracking. No change.

Room 5.08 – Boiler Room

Stud work and lining no change.

Room 5.09 – Upper Plant Room

Large roof void with ventilation plant, trusses, bearing with purlins, purlin ends on both west and east faces, north end are rotten and need picking up at the rafter abutting the dividing wall to the Upper education Room. Leaking around ventilator terminals on west face, insulation poor. Insulated head to eyebrow in Treffry.

Leak around ventilator addressed. Leak has occurred in south east corner, now addressed.

Room 5.10 – Walkway over Main Gallery

See roof void R3.

No change.

Room 5.11 – Walkway – over Philbrick Gallery

See roof void R2.

No access.

LEVEL 4

Room 4.00 – Upper Main Gallery

Barrel roof with we believe, steel principles, boxed and panelled with plaster mouldings. Supports and purlins and glazed panels now covered over and slated. Central ventilator with walk way above. Damp in third bay from south west face. Damp in north east corner.

Damp staining progressed to third bay from south west face. Damp in north east corner resolved.

Minor cracking to north and south gables on east face and west face north west corner. Some patching of paintwork otherwise sound.

Room 4.01 – Learning Store

Ceiling	Damp to ceiling around skylight.
Walls	Damp and salting around doors. Plaster poor to all.
Floor	Sheet

Damp and salting continues, very humid space. Moisture ingress around lights and poor roof detailing. See above.

Room 4.02 – Staircase access to roof

Plaster poor.

Room 4.03 – Textiles Store

Ceiling	Plasterboard and skim.
Walls	Concrete block and some rendered with cast raising on the back wall west face.
Floor	Suspended vinyl. Minor hairline cracking to west end.

No change.

Room 4.04 – Lobby to Textiles Store

Ceiling	Plasterboard and skim.
Walls	Stud.
Floor	Suspended, wrapped around staircase.

No change.

Room 4.05 – Dog Leg Staircase

Ceiling	plaster and rake.
Walls	to east step cracking through block and abutment to casting of Level 3 stairs.

No change.

Room 4.06 – Lift Shaft

No comment.

No change.

Room 4.07 – Void

No comment.

No change.

Room 4.08 – Upper Education Room

Ceiling	suspended grid pattern.
Walls	inner and outer, stud/dry lined. Glazing to north. Outer framing needs running repairs and painting.

Floor

No change.

Room 4.09 – Store – Limited Access

As 4.10

Room 4.10 – Storage Space/Plant

Stud work to north east corner return. Limited access.

No access.

Room 4.11 – Storage Space/Plant

Ceiling	Stud under the slope.
Walls	Stud and solid
Floor	Concrete with bracing.

No access.

Room 4.12

No access. No comment.

No access.

Room 4.13 – Lift Well

No comment.

No comment.

Room 4.14 – Staff Stairwell

Ceiling	Raked to galvanised purlins.
Walls	Plaster on stud.
Floor	Stairs

No change.

Room 4.15 – Lobby to Curator's Office

Ceiling	to rake: new
Walls	Thin plaster walls plaster on stud.
Floor	Suspended

No change.

Room 4.16 – Curator's Office

Ceiling	Steel truss supported with galvanised purlins, plasterboard drawn beneath.
Walls	Steel frame, solid. Partly illuminated by double glazed windows to which earlier comments apply.
Floor	Suspended. Carpeted.

No change.

Room 4.17 – Boiler Room

Ceiling	Raked plaster, galvanised purlin.
Walls	Plaster on stud.
Floor	Suspended.
Other Comments	Room is vented. Boiler is positioned with valves, pipes and pressurisation vessels.

No change.

Room 4.18 – Courtney Library Mezzanine Floor

Ceiling	suspended ceiling with acoustic tiles. Damaged. Cracking to rear wall, north.
Walls	Crack by entrance door to 4.19.
Floor	suspended on frame.

We would recommend checking the readings on the crack monitors/tell tales and assessing movement both of studs and glass tell tale.

Room 4.19 – Access to the roof void ref Roof Void R1

	Reveals a light weight steel trusses with purlins supporting over spaced 2 x 2 softwood timbers and valley decks. Insulated felt behind. There is some rusting to the purlin ends where they go to the wall heads. The void is not insulated.
Ceiling	A suspended ceiling is hung below. Evidence of underside lead corrosion.

Walls	plaster on solid, damp staining. Some cracking. We are advised that this is as a result of the damp ingress prior to re-roofing. Plaster is salted and will attract damp from the atmosphere.
Floor	Suspended frame.

Ceiling still open. Plasterwork still salted but due to be decorated. Minor cracks through plaster.

Room 4.20 – Lobby to Library Archive

Ceiling	grid pattern with acoustic tiles. Damaged.
Walls	plaster on solid with cracking in south east corner.
Floor	vinyl on solid.
Other Comments	limited access to the roof void showed slender slating rafters on steel with insulated backed sarking felt. This has no thermal value at all. There is no other insulation. We are advised that the main front section of the building was reconstructed with a steel frame in 1973.(R1)

No change.

Room 4.21 – Upper Archive Part of the Philbrick Upper Section

Ceiling	grid pattern with plaster ventilators. On the curve. Evidence of earlier damp ingress and some rot to the ribbing which needs to be carefully monitored.
Walls	hessian, lined on battens and stud.
Stairs	Stairs descending to Level 3
Other Comments	Where ceiling has been broken there is evidence of timbers, cast concrete and steel. The steel is showing signs of rusting. This needs further investigation and may need de-rusting and assessment of structure. This appears to follow the principle ribbing.

No change.

Room 4.22 – Archive Cupboard

As 4.21

No change.

LEVEL 3

Room 3.01 – Outside stairs

No change.

Room 3.02 – Small Gallery

Ceiling	Plastered. Damp in north east corner.
Walls	Concealed by cabinets.
Floor	Solid and carpeted.

Re-modelled and repaired.

Room 3.03 – Staircase

Access to Fourth Level.

Room 3.04 – Staircase

Ceiling	Coffered and beamed with mouldings and cornice. Glazed panel infilled and roofed over. Minor evidence of condensation and damp from the inside. Monitor.
Walls	Plaster on solid open balustrade to stairs.
Stairs	Terrazzo solid. Cracking to goings.

Condensation seems to have been addressed.

Room 3.05 – Main Staircase West Landing

Ceiling	Coffered to beams and mouldings. Damp staining due to ingress on north wall down the centre . Cracking to the cornice. Damp and cracking to the south west corner.
Walls	Walls plaster on solid with salting and cracking at high level, paint peeling.
Floor	Terrazzo solid here, as elsewhere, cracking at joints. Some open, some filled.

Damp staining addressed.

Room 3.06 – Main Staircase East Landing

Walls	Damp on north wall, cracking reflecting that in 3.05. Plaster on solid, minor salting. Cracking to WC door.
Floor	Terrazzo infilled cracks not apparently progressive. Slightly uneven.

Damp and salting addressed.

Room 3.07 – WC

Ceiling	Plasterboard and skim.
Walls	Plaster on solid with panel access points, part tiled.
Floor	Solid, suspended and vinyl. Contains low level WC, wash hand basin and grab rail and vents.

No change.

Room 3.08 – Metal Store

Ceiling	Plasterboard and skim. Cracking to north wall abutment.
Walls	Concrete block north, ashlar old wall, exterior south stud, west and east. Diagonal crack from south west corner rising. Wall crack on south wall exterior by door way south east corner.
Floor	Suspended, vinyl sheet.

Minor hairline crack to old render on south. Shrinkage cracks to upper north.

Room 3.09 – Radioactive Store

Ceiling	Plasterboard and skim.
Walls	Plaster on stud internally, block work externally, crack to ceiling abutment to north side. Damp staining over cavity tray to east.
Floor	Suspended.

Ongoing movement to north elevation and outer ceiling level.

Room 3.10 – Lobby to Metal Store

Ceiling	Plasterboard and skim.
Walls	Plaster and stud. East wall block.

Floor — Vinyl suspended.

No change.

Room 3.11 – Rear Stairwell

Ceiling — movement, damp, salting and failure of plaster. Skimmed under the pot and beam structure set over C section joists, built into cast pads at the bottom, ceils in the midst on the south end. These were damp and movement needs to be checked to ensure that it is arrested.

Walls — plaster, ashlar lined in part to west. Blocks to south with hairline cracking running through and at abutment to east. Horizontal cracking running through east and vertical cracking on the north-northeast floor stairs.

No change.

Room 3.12 – Vestibule at Rear of Exhibition Store

Ceiling — plasterboard.

Walls — stud.

Floor — carpeted, suspended.

No change.

Room 3.13 – Passageway to Art Store

Ceiling — suspended ceiling, grid system to lower rake. Similar rake to stairs. 3.43.

Walls — plaster and render to west. Decorated block to north. Stud. Analyse. Cracking and damp staining to west wall upper.

Floor — suspended timber.

No change.

Room 3.15 – Art Store 1

Ceiling — exposed slabbing, pre-cast. Fitted with racking.

Walls — concrete block. Cracking in north east corner. Access to lift.

Floor — frame slab and stone racks

Room 3.16 – Art Store 2

Ceiling	plaster with storage grids and tracks.
Walls	not fully inspected due to racking.
Floor	runs with tracks.

No change.

Room 3.17 - Art Store Small Store

Not accessed.

No change.

Room 3.18 – Art Store Under Stairs Cupboard

Not accessed.

No change.

Room 3.19 – Exhibitions Store

Ceiling	Plasterboard.
Walls	Plaster on stud to the north, dry lined to east and west. Portable partition to south.
Floor	Solid, carpeted.

No change.

Room 3.20 – Philbrick Gallery

	This we are advised is part of the early twentieth century extension. Steel frame and timber, hessian to the coving of the ceilings. Glass panels above now papered and straight painted.
Walls	Lined off and hessian. Vented.
Floor	Timber floating floor, this will be vulnerable to changes in humidity and minor movements to the timber.

No change.

Room 3.21 – Library Archive Store and 3.22 - Stairs

Ceiling	Plasterboard running to box beams with staircase going to Fourth Level
Walls	Part hessian on batten. Stud work to Philbrick (3.20). Damp staining to west wall.
Floor	Solid vinyl.

No change. Damp to west wall no worse.

Room 3.23 – Balcony

Ceiling	See 4.00
Walls	Plaster and solid. Minor cracking was noted on west face.
Floor	Terrazzo cast solid cantilever supports with open and infilled balustrading.

No change. Some patching and redecoration completed.

Room 3.24 – De Pass Gallery

Ceiling	grid pattern, plain and vented sections running to mouldings and cornice.
Walls	largely concealed by displays.
Floor	Vinyl sheet on parquet over solid.

No change.

Room 3.25 – Stairs Cupboard

No change.

Room 3.26 – Under stairs

No change.

Room 3.27 - Passenger Lift Lobby

Ceiling	plaster. Patching.
Walls	plaster on solid and exposed stone – old Chapel east.
Floor	solid, carpeted.

No change.

Room 3.28 – Lift Shaft

Room 3.29 - Link Gallery

Ceiling	raked, plasterboard under steel and linked. Damp staining in upper corner and abutments north.
Walls	part stone, paper lined, dry lining and stud.
Floor	carpeted on solid.

No change. Minor damp staining to north west corner and damp staining to ceiling.

Room 3.30 – Treffry Gallery

Ceiling	lath and plaster, patched, running to coving, skim, pierced with vents. Eyebrow formed to the south. Old Chapel rose retained in the centre. Damp staining mid southern third east face.
Walling	patched, papered and half lined.
Floor	wood strip on solid.
Other Comments	windows to south shuttered. Fixed.

Damp staining on ceiling by ventilation system may be condensation from the system. Monitor. Cracking around front rondel eyebrow window. Monitor.

Room 3.31 – Programmes Office

Ceiling	raked to the hip.
Walls	lined and stud. Glazed wall to south Georgian wire and varnished oak.
Floor	carpeted on solid.

No change but consider improved natural ventilation.

Room 3.32 – Library Office

Ceiling	raked, south facing. Two Velux lights, minor leakage.
Walls	part lined, part solid. Glazed wall to south Georgian wire and varnished oak.
Floor	carpeted on solid.

Damp coming in around Velux. Review weathering and pitch and seal.

Room 3.33 – Staff Staircase

Ceiling	part plastered.
Wall	plaster on solid.
Stairs	staircase.

No change.

Room 3.34 – Ladies WC

Ceiling	plaster.
Walls	plaster on solid, plaster on stud.
Floor	vinyl, swept skirtings.
Other Comments	Contains low level WC, concealed cistern, water heater, wash hand basin. Extractor fan.

No change.

Room 3.35 – Vestibule to Admin Offices

Ceiling	Plasterboard and skim.
Walls	plaster on stud.
Floor	solid carpeted.

No change.

Room 3.36 – Administration Office

Ceiling	plaster with low box beams.
Walls	plaster on solid, some lining, some exposed brick work.
Floor	solid, carpeted.
Other Comments	Internal windows to other rooms and offices.

No change.

Room 3.37 – Store

Full

No change.

Room 3.38 – Finance Office

Ceiling	plaster to drop beams and boxing.
Walls	plaster on solid and stud.
Floor	solid, carpeted.
Other Comments	This is an internal room.

No change.

Room 3.39 – Staircase to Library

Wall	Plasterboard and skim with solid with cracking to beam and header staircase casting.
Floor	Solid cast concrete teratzer

No change.

Room 3.40 – Courtney Library

This has been adapted with the insertion of mezzanines and walkways.

Ceiling	Where they exist there are acoustic tiles and framing except between beams. There is movement on the beams especially on the front wall.
Walls	There is movement crack on the back wall reflecting Level 4 above. Plaster on solid.
Floor	Suspended on steel. This is bowed and uneven where the floor has sunk due to loading against the principal. The loads should be checked and measured.

Note comments on movement from level 4 above.

Room 3.41 - Spiral Staircase to Mezzanine Floor

No change.

Room 3.42 – Charles Barham Room

This was built in the nineties.

Ceiling	Central beam plasterboard, skim running to coving. Damp staining in north east corner and north west corner reference roof report.
Walls	Concrete block external render, granite facing to south. North wall old external wall with Barham memorial wing plaque.
Floor	Solid construction, carpeted.
Other Comments	Window to the side sliding sash as before.

Damp in north east corner. Assess roof from above. This may be a rainwater discharge blockage.

Room 3.43 – Stairs to Upper Education Room

Ceiling	raked with grid panels.
Walls	part plaster on stud, part plaster on solid.
Floor	stairs.

No change.

LEVEL 2

Room 2.01 – Conservation Lab

Ceiling	cast and skim to lower section. Shuttered concrete into the landing of the main gallery, with rake under staircase, presumably with reinforcing. No sign of rusting.
Walls	stud and dry lined. Plaster on solid. Minor hairline cracking to right hand side of change of levels from lower floor.
Floor	non slip vinyl on suspended.
Other Comments	access to void under dog leg stair to main gallery with access to workshop at lower level.

Minor hairline cracking to beams spanning but nothing progressive.

Room 2.02 – Cleaners Store

Ceiling	reference 1.07 extended. Limited headroom.
Walling	exposed walling with cracking in northeast and south, particularly under bearing of steel. Exposed steel and supports for underside of landing and stairs. (Ref. 1.07).
Floor	sheet

No change.

Room 2.03 not seen (External gas Meter Cupboard)

No access.

Room 2.04 – Entomology Store

Ceiling	plasterboard and skim.
Walls	concrete block. Cracking to ring beam on south elevation and cracking at end wall of the south wall return to the west.
Floor	suspended, with vinyl sheet.
Other Comments	forced ventilation.

Minor crack to south west corner and in block work to south.

Room 2.05 – Lobby to Rear Door

Ceiling — plasterboard and skim.

Walls — concrete block. Movement to base of staircase to new opening on vestibule to external door.

Floor — steps and suspended vinyl.

No change.

Room 2.06 – Car Park

See exterior.

Room 2.07 - Rear Staircase

Walls etc., — concrete block, part rendered rising with steel staircase, steel landings.

No change.

Room 2.08 – Goods Lift

No comment

No change.

Room 2.09 – Middle Store (New Structure)

Ceiling — concrete slab, colour washed. Minor damage to edges .

Walls — north – block and decorated and round lift and to south. No evidence of cracking to walls.

Floor — runners for storage with chipboard between, presumably on solid.

No change.

Room 2.10 – Lobby to Middle Store/Photographic Workshop

Ceiling — block and beam.

Walls — plaster on solid. Plastered infill with Thermolite Lightweight.
Cracking to mortar joints at high level on south face.
Crack by door to stairs on west wall from lintel to floor level.

Floor — steel plate with anti slip.

No change.

Room 2.11 – Frame Store

Ceiling	block and beam with two in situ cast concrete reinforced beams. Cracking running vertically through at least three places on each.
Walls	Cracking to pad below on walling and infilled blockwork from presumably earlier windows. Cracking to return of plinth on the east wall, left hand nib.
Floor	suspended and chipboard, opening through to 2.12, pot beam and block.

Movement cracking to beam bearing on west wall.

Room 2.12 – Library Deep Archive

Ceiling	concrete block. Sub division halfway along to void 2.14.
Walls	exposed side wall to Chapel on east face.
Floor	chipboard, suspended.

No change.

Room 2.13 – Lift: not accessed No change.

Room 2.14

Inaccessible void with services.

Not accessed.

Rooms 2.15 and 2.16 – Staff Staircase

Staircase – Serviceable

No change.

Room 2.17 – WC

Ceiling	lath and plaster,
Walls	plaster on stud and solid.
Floor	suspended timber.
Other Comments	contains a low level WC, boxed behind with concealed cistern. Wash handbasin.

Room 2.18 – Lobby to Directors Office

Ceiling plasterboard and skim.

Walls plaster on stud.

Floor suspended.

No change.

2.19 – Director's Office

Ceiling plasterboard and skim.

Walls plaster on stud, largely solid.

Floor suspended timber, carpeted.

Other Comments heated via a single panelled radiator, thermostatically controlled. illuminated by an internal window to cafe.

No change.

Room 2.20 – Lobby to Development and Communication's Office

Ceiling plasterboard and skim.

Walls plaster on solid stud.

Floor suspended timber.

No change.

Room 2.21 – Development and Communication's Office

Ceiling plasterboard and skim with box beam.

Walls plaster on stud, plaster on solid. Minor cracking to River Street elevation to right hand side of window and return wall on west face. Window internal to cafe.

Floor carpeted, suspended.

Other Comments single panelled radiator, thermostatically controlled.

No change.

Room 2.22 – Chapel/Cafe Mezzanine

Gallery retained in cast iron, re-formed with new staircase.

Below gallery tongue and groove boarding on east face.

Floor in entrance way and under mezzanine, stone on solid.

No change.

Room 2.23 – Stairwell from Treffry Gallery

Serviceable.

No change.

LEVEL 1

1.01 and 1.02 – Fire Escape from the Maintenance Workshop

Clean down void and re-order drainage.

No comment.

Room 1.03 – Maintenance Workshop

Ceiling	plasterboard and skim. Recessed lights.
Walls	dry lined in part and plaster on solid. Damp by doors to west.
Floor	solid concrete ducted. Lino painted.

No change, still minor damp at low level.

Room 1.04 – Exhibitions Workshop

Ceiling	plasterboard, underdrawn.
Walls	part dry lined, part brick and stone, colour washed. Part shuttered cast concrete to main gallery staircase.
Floor	solid concrete, lino painted. Minor and old cracks.

No change.

Room 1.05 – Over 1.03 – Stairs to Conservation Laboratory

No change.

Room 1.06 – Cleaners Workshop

As with 1.04

No change.

Room 1.07 – Stairs

Ceiling	cast underside of main gallery stairs.
Walls	dry lined, part rubble stone colour wash. Cracking to south and beam bearing in northeast corner. Old.
Floor	cast concrete.

No change, take care with loose vinyl sheeting on stairs.

Room 1.08 – WC

Ceiling	plasterboard and skim. Minor hairline cracking.
Walls	plaster on solid, tiled at low level. Damp above cistern.
Floor	vinyl swept skirt. Spongy round services. Open and inspection.
Other Comments	poorly vented. Men's urinal, WC, wash handbasin. Tiling loose. Upgrade needed.

Room 1.09 – Lobby to Toilet

Ceiling	plaster.
Walls	plaster on solid. Extensive damp and rot to northeast corner, by door jambs.
Floor	solid, terrazzo finish. Cracking running through.

Room 1.10 – Strong Room

Ceiling	shuttered cast concrete with steel for understairs.
Walls	brickwork, colour washed.
Floor	concrete and minor cracking between cast ceiling and walls.

Room 1.11 – Vent Room

Ceiling	cast concrete.
Walls	solid, Thoroseal and damp.
Floor	concrete, vent ducts within.

No change.

Room 1.12 – Stone Store

Ceiling	plasterboard and skim.
Walls	concrete block – colour washed. Sacking round flue and over east door with lower section of steps.
Floor	concrete lino paint. Steps down to 1.13.

No change.

Room 1.13 – Inner Lobby to Basement Control Room

Ceiling	concrete under stairs and boarded over door.
Walls	concrete block to cast beams.
Floor	solid with drain access chamber.

Now adjusted to retail store. Pipes capped off.

Room 1.14 – Outer Lobby to Basement Control Room

Ceiling	board.
Walls	concrete block
Floor	hairline crack to framing in southeast corner. Dog-leg of stairs. Cast concrete stairs.

No change.

Room 1.15 – Wet Store

Ceiling	cast concrete.
Walls	tanked and failing.
Floor	concrete slab holding water. No ventilation, no drainage. Duct pipes encourage water in.

Still damp.

Room 1.16 – Sheep Store

Ceiling	cast concrete slab, shuttered.
Walls	concrete block.
Floor	concrete slab. Previous rot in here at west end. The area would benefit from ventilation. Heavy condensation.

Not accessed.

Room 1.17 – Rashleigh Gallery

Ceiling	broken into seven bays with beams running east-west. Damp staining on west end southwest corner, in the second bay intersection and seventh bay north. Ceiling plaster running to cornice boxing. Minor hairline cracking and scouring. Serviceable.
Walls	plaster on solid, scarring to the blocked windows on west and to a lesser degree on the north. Hairline cracking running below beam position and ventilator inlet. Damp staining as from ceiling. Salting and plaster.
Floor	boarding, polished on bearers.
Other Comments	the room is entirely internal. Windows to the south at high level, being two in number, have been blocked off from outer side and glazing removed.

No material change, although still fairly extensive salting and damp on west and south west corners.

Room 1.18 – Main Gallery

A full height structure with gallery around.

Ceiling/Roof	glazed panels and central solid rafter sections with ventilation runs. It is assumed that the glass is retained under the glazed panels but has now been slated over. Further investigation and confirmation is needed from above. Reference roof void area above the further detailing on the structure. The beams appear to be false work and plaster with slender steels behind.
Walling	the upper walling and gallery is taken elsewhere. This is cantilevered cast concrete on large formed brackets. The composition and structure of the cast concrete should be determined. The walling is plaster on solid, some lined and much concealed behind displays. Serviceable.
Floor	cast concrete terrazzo, polished with cracking running through. It would appear that this flooring is barely 7" deep with minimal reinforcing. There is a system of tunnels underneath for access and services. Possible earlier ventilation scheme which may not have been installed. The floors in the middle may not have sufficient hardcore and aggregate underneath them, thus care will be needed for any loading.

Other Comments	the main entrance door has a sag to the lintel. On checking the bearing underneath, this does not appear to be problematic. The lintel may have been affected by settlement or beetle. This needs to be regularly monitored to check movement. Movement was not noted through the plaster panels or structure above the gallery.

No noticeable progress or movement on cracking. No change.

Room 1.19 – Main Staircase

	cast solid form running to Gallery and floors. As above.

No change.

Room 1.20 – Bonython

Ceiling	lath and plaster with boxed beams and cornice moulding. Sound.
Walls	plaster on solid and lined off. Lower part concealed by displays.
Floor	parquet. Some minor movement in some of the parquet with shrinkage of blocks, but generally serviceable. Re-set loose blocks.

No change.

Room 1.21 – Rear Stairs

Ceiling	steel, frames to staircase
Walls	concrete block, damp salting and loose plaster under stairs and at low level. Cracking to blockwork and beam in southeast corner.
Floor	concrete.

No change.

Room 1.22 – Lobby to Ground Floor Store

Ceiling	of 2.10.
Walls	concrete block. Ashlar lined on old, hairline crack on the north, tie in low level with infill between different materials.
Floor	solid concrete.

No change.

Room 1.23 – Ground Floor Store

Ceiling	cast slab and beam.
Walls	vertical hairline crack through concrete block, mid position on south. Wall to 1.43 boarding and stud.
Floor	slab concrete with hairline cracking running through northeast to west and some crazing north to south . Timber plat to lift shaft.

Not accessed.

Room 1.24 – Goods Lift Shaft

Concrete block with lower section rendered. Damp and salting. Lift equipment excluded. Door to 1.16, condensation and damp from ground level. Open cavity. Poorly insulated.

Not accessed.

Room 1.25 – Switchgear Landing

Ceiling	softwood joists, chipboard above, unceiled.
Walls	ashlar lined on solid to the west.
Floor	solid concrete, cracking through the slabbing. Probably casting crack. Exposed steel for the framework. The area needs under drawings and fire protecting. Minor hairline cracks through walling or following lines of earlier opening and some horizontal through to casting.

Concrete cast staircase to lower level with Georgian wire glass light to west.

No change.

Room 1.26 – Passenger Lift Lobby

Void with services underside stairs.

Ceiling	Supalux under drawn, fire protected.
Walls	old lime plaster pierced through for services at low level and under stairs.
Floor	concrete. suspended with non slip sheeting.

No change.

Room 1.27 – Lift Shaft

cracks to inner walls and earlier openings. Monitor.

No comment.

Room 1.28 – Main Switchgear Cupboard

Under stairs cupboard lined. Very cramped with services.

No change.

Room 1.29 – Staff Stairwell and Lobby

Ceiling	lath and plaster, minor hairline cracking, serviceable.
Walls	plaster on solid, stud to the door. Minor damp and salting at low level
Floor	terrazzo, minor cracking but serviceable.
Other Comments	access to under stairs service area, 128.

No change.

Room 1.30 – Staff Room

Ceiling	plaster with ducts and services.
Walls	lime plaster and solid.
Floor	solid, carpeted.

This has been partly re-configured as part of the work for 1.31. Amend plans for both.

Room 1.31 – Post Room, now WC to Cafe

Re-formed 2012.

Ceiling	plasterboard and skim.
Walls	plaster on solid and plaster on stud.
Floor	pot and beam and vinyl sheet (completed 2012)

This room has been re-configured for lavatories.

Room 1.32 – Meeting Room, now WC

Ceiling	plasterboard and skim.
Walls	plaster on solid and plaster on stud.
Floor	pot and beam and vinyl sheet (completed 2012).

Adjusted for staff and other lavatory facilities. Amend plan. Gents and ladies with disabled plant and baby change. Reset loose swept skirtings.

Room 1.33 – Education 2

Ceiling	plasterboard to cover.
Walls	plaster on solid, part concealed by cupboarding and storage. Serviceable. Evidence of earlier minor hairline cracks.
Floor	vinyl sheet finish. Sub structure not determined. Possible weakness by external door. Investigate.
NOTE:	exit to west. Kitchen sink and drainer provided. This room is an extension with some exposed granite work from the old external wall.

NOTE: Floors have been repaired.

Room 1.34 – Education 1

Ceiling	two bay plasterboard to coving. Box and plaster beam.
Walls	plaster on solid with column inserts for structural work to front elevation. Note cracking above. Damage to plaster and salting with damp at low level.
Floor	vinyl sheeting on solid.
Other Comments	under drawn to stairs to upper library.

Minor evidence of movement to front elevation, otherwise no change.

Room 1.35 – Store off Education 1

Not accessed.

No change.

Room 1.36 – Store at bottom of stairs to 1.37

Not accessed.

Not accessed.

Room 1.37 – Staircase to Courtney Library and up to 3.39

Not accessed. No change.

Room 1.38 – Reception

Ceiling	three bays, beam boxed with cornice/coving. Serviceable.
Walls	plaster on solid, concealed partly by display cabinet.
Floor	terrazzo style. Serviceable.

No major change. Minor cracking to some of the boxing on the beams. Patch painted.

Room 1.39 - Cafe position in New Link

Ceiling	plaster with borrowed lights.
Walls	plaster on solid, part boarded.
Floor	modern laminate on solid.
NOTE:	access to under floor under serving counter. Large glazed unit to River Street.

No change.

Room 1.40 and 1.41

Timber stairs rising to cafe and mezzanine.

Ceiling	plasterboard and skim, under drawing.
Stairs	timber.

No change.

Room 1.41 – Cornwall Arts Shop Main Area

Ceiling	plaster, and boxing to beam for upper floor and exposed columns.
Walls	plaster on solid. Modern conversion and lining boards.

Floor modern timber on suspended.

No change.

Room 1.42 – Cornwall Arts Shop Small Display Room

Ceiling lower, plasterboard and skim, ventilation ducts.

Walls plaster on solid.

Floor solid, minor ramp.

Other Comments fitted out shelving. A full inspection not possible.

No change.

Room 1.43 – Cornwall Arts Shop Kitchen

Ceiling cast concrete slab on a beam.

Walls blockwork. A full inspection was not possible.

Floor blockwork. A full inspection was not possible.

No change.

1.44 – External Walkway to East of Chapel

See external section of report.

Walls point, attend to ventilation and improve drainage.

This area needs extensive cleaning and removal of debris and surplus stored material. Attention to roofs, gutters etc above.

Room 1.45, 1.46 and 1.47 – External Paved Area

As referred to in the external section of the report. Pointing of wall capping required. Re-setting of paving slabs and replacement where damaged. Handrails required to change of levels.

The gardens are well maintained. The rails require cleaning and painting.

Re-point loose slabs and steps. Control bamboo growth that could be invasive.

Replace broken paving slabs and wall cappings, point cracks and reset loose blocks. Point paving. Replace rotten planters.

Point to paving. Point open jointing to steps. Replace broken paving. Paint rails. Clean drains.

Room 1.48 – Ground Floor Disabled Toilet

Ceiling	lath and plaster.
Walls	plaster on solid, part tiled.
Floor	suspended timber, non slip sheet.
Other Comments	it contains a low level WC, low level wash handbasin, hand dryer and contrasting grab rails. Emergency pull cord in situ. Extractor fan.

No change.

Room 1.49 – Store Over New Toilets

trap accessed.

Not accessed.

BASEMENT LEVEL 0

Room 0.00 – Staircase

Ceiling	boarded and cut.
Walls	concrete, hairline cracking through concrete. Ashlar lining to south and new blockwork to north. Stepped where settled against cast concrete.
Floor	concrete to stairs.

No change.

Room 0.01 – Basement Control Room

Ceiling	cast concrete, extensive salting and condensation around vents in northwest corner and pipe ducts and drains. Staining to northwest corner and plinth below.
Walls	render on solid. Extensive salting and damp below ground level.
Floor	lino paint ex on concrete, slab uneven, central drain in floor. Sump pump in drain. On return to staircase, crack between blockwork and plasterwork.

No change.

Room 0.02 – Basement Plant Room

Ceiling	cast concrete, render.
Walls	render on solid.
Floor	cast concrete with raised plinth for plant and some salting and damp at low level. Recommend cut through drainage channel to sump pump.

No change.

Room 0.03 – Stairs – To Control Room

solid, improve drain

No change.

Room 0.04 – Basement Store

Ceiling	solid concrete with steel beams and rather odd chamfer concrete with flange. No protection underneath.

Walls	solid, access to stairs. Vent.
Floor	solid concrete with cracking by door. Slight camber to east.

No change.

Room 0.05 – Stairs to Basement Store

Ceiling	exposed joists. Plyboard above needs under drawing.
Walls	rough, blockwork, decorated, colour wash. Minor hairline cracking and cracking through ashlar. Steel framing to stairs. Stairs concrete.
Floor	concrete slab with drainage gully and chamber cover.

No change.

Room 0.06 – Tunnels

Floor slab to main gallery ground floor assumed to be 7" with reinforcing underneath in mesh format – rusted and inadequate cover. Voids generally dry and clear. Improve void, clear debris, remove redundant services. Check floor structure above. Damp in N.W. corner.

Room 0.07 – Under Cafe Store

Ceiling	pot and beam, uninsulated.
Walls	concrete shuttered and concrete slab. Racked with shelving and uninsulated piping. Fire detector. Staircase off to area no longer used.
Floor	Rough concrete

Not accessed.

SERVICES

Within the context of this report we would note that specialist reports have not been commissioned from:

Electrical Service Engineers
Heating Engineers
Environmental Engineers and Consultants
Safety and Alarm Installation Engineers
Environmental Monitoring Engineers
Security Engineers

We believe these sections of the building are reported upon separately by retained consultants. This does not form part of the brief.

SPECIAL NOTE

THIRD PARTIES

This report and valuation is prepared for the sole use of The Institution of Cornwall and their legal advisers. No responsibility or liability will be accepted to any third part for details contained within this report and valuation.

APPENDIX 1

SUMMARY OF MAJOR WORK TO THE EXTERIOR

Immediately

Clean roof areas – slates, valleys, gutters and gullies
Re-set loose and damaged slates
Seal lead sleeves to vents (R4 west)
Modify outlet and water handling to parapet gutter P3
Re-set/point in loose lead flashings, collars, caps to slate hanging, valley outlets and below R5
Major review, upgrade and redesign of rainwater discharge, gutters, hoppers and downpipes
Inspect all asphalt roof areas under insulation and walk ways, repair
Commence monitoring of structural movement – internally and externally **£45,000**

Within 2 years

Investigate: replace slating and felt (R2), (R3 east), (R5)
Minor pointing to ridge tiles
Replace and redesign caps to lead vents (S2), re-weather loose vent outlets
Replace upgrade detailing to ridge vents RV1 and 2
Overhaul and ease and clean Velux lights and replace roof lights
Move all blockwork and insulation laid on roof areas. Patch and review insulation. Replace.
Review fixing of and effectiveness of roof level hand rails and access arrangements
Replace and simplify roof area to east by plant
Review all flat roof areas: access, covering, insulation, discharge. Redesign and replace.
Repair and weather entrance portico
Point old Chapel east wall
Commence extensive programme of joinery repairs and redecoration/overhaul Crittall windows or replace
Re-set loose coping stones and repair boundaries at low level
Provide hand rail between front garden areas to steps
Point voids to south wall and new link store facing
Redesign over cladding/render to rear north – replace – protect with bollards at low level **£650,000**

Within 5 years

Replace or upgrade all mineral felt roof coverings, redesign outlets and management of rainwater handling

Routine

Reinstate slipped slates and loose tingles
Test all services
Clean gutters and downpipes
Ensure adequate ventilation
Redecorate
Remove debris from gullies and plant growth
Clear paths
Check security

Budget costs £695,000 - £740,000
Plus VAT and fees

SUMMARY OF MAJOR WORK TO THE INTERIOR

Immediately

Address moisture ingress and make good (R2)
Access and advise on steel truss feet, rusting and load (R3, above 4.19, 5.04) **£25,000**

Within 2 years

Repair ceiling and walls following work (5.01)
Repair purlin ends and roof structure (5.09)
Check glazed panels to roof/ceilings generally (4.00, 3.04, 3.20, 1.18) Consider upgrade or replacement for safety.
Assess steels, de-rust, treat (4.21)
Plaster repair generally to cracks, damp etc.,
Minor re-setting of loose floor coverings, general
Improve drainage (exterior part) (1.01, 1.02/1.15/0.02)
Monitor all major movement cracks over at least 5 years
Monitor rot (1.16)
Assess construction and reinforcement of main ground floor terrazzo slabs to galleries
Improve insulation, ventilation, access for maintenance
Analyse block structure (3.13) **£155,000**

Routine

Test all services
Ensure adequate ventilation
Redecorate
Check security

Budget costs £180,000- £195,000
Plus VAT and fees

Budget QI Costs for Repair and Maintenance

External	£655,000 - £700,000
Internal	£155,000 - £170,000
	£810,000 - £870,000
	Plus fees and VAT

Subject to further opening up

- Programming of works
- Priorities
- Logistics

Excluding services and plant

Excludes cyclical repair and maintenance

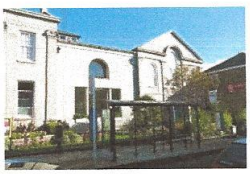
APPENDIX 2


DSC00045


DSC00046


DSC00047


DSC00048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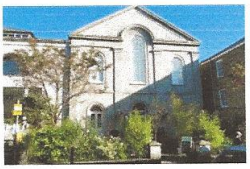
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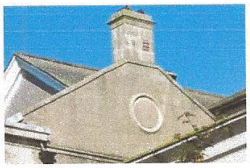
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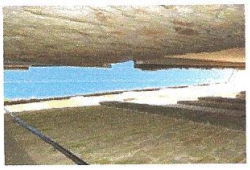
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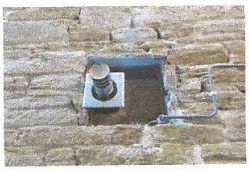
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DSC00064


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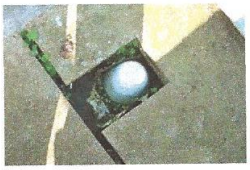
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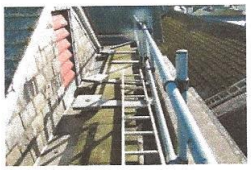
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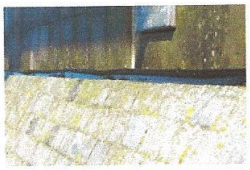
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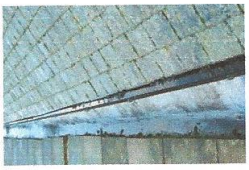
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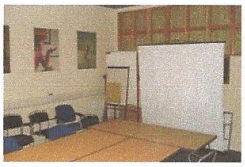
DSC00079


1-10-51 Royal Cornwall Muse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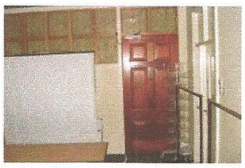
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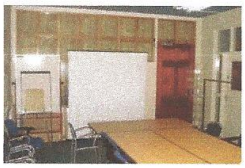
1-10-53 Royal Cornwall Muse


1-10-53 Royal Cornwall Muse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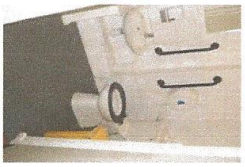
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1-10-59 Royal Cornwall Muse


1-10-59 Royal Cornwall Muse

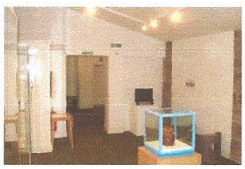

1-10-59 Royal Cornwall Muse


1-10-59 Royal Cornwall Muse


1-11-00 Royal Cornwall Muse


1-11-00 Royal Cornwall Muse


1-11-06 Royal Cornwall Muse


1-11-06 Royal Cornwall Muse


1-11-06 Royal Cornwall Muse


1-13-29 Royal Cornwall Muse


1-13-30 Royal Cornwall Muse


1-13-30 Royal Cornwall Muse


1-13-30 Royal Cornwall Muse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1-13-32 Royal Cornwall Muse


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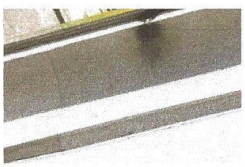
1-13-33 Royal Cornwall Muse


1-13-34 Royal Cornwall Muse


DSC00038


DSC00039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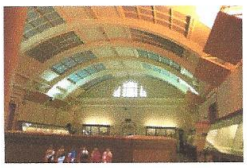

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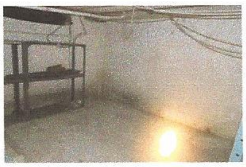

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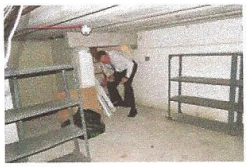

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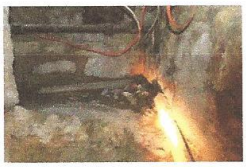

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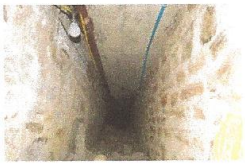

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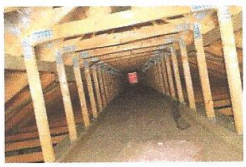

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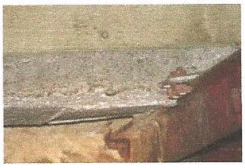

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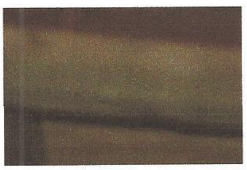

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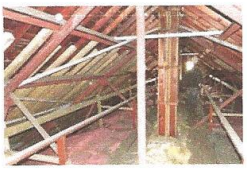

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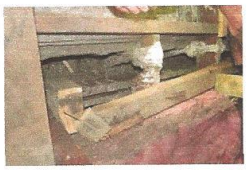

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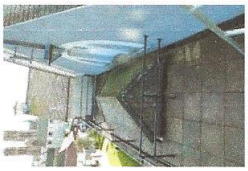
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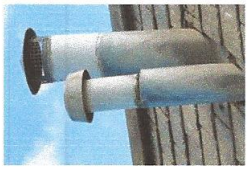
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APPENDIX 3


Royal Cornwall Museum (1)


Royal Cornwall Museum (2)


Royal Cornwall Museum (3)


Royal Cornwall Museum (4)


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