SCOPE OF WORKS

- for the preparation of a -

CONDITION SURVEY
& 10-YEAR MAINTENANCE PLAN

- in respect of -

THE EXISTING BUILDINGS
& EXTERNAL AREAS

- at -

THE HORNIMAN MUSEUM AND GARDENS
100 LONDON ROAD, FOREST HILL, LONDON, SE23 3PQ
-and-
THE STUDY COLLECTION CENTRE
OLD SCHOOL CLOSE, OFF MILLENNIUM WAY, LONDON, SE10 0PU

- for -

THE HORNIMAN PUBLIC MUSEUM
AND PUBLIC PARK TRUST

Scope of Works

- for the preparation of a -

Condition Survey
& 10-Year Maintenance Plan

– In respect of -

The Existing Buildings & External Areas

- at -

The Horniman Museum and Gardens
100 London Road, Forest Hill, London, SE23 3PQ
-and-
The Study Collection Centre
Old School Close, off Millennium Way, London, SE10 0PU

- for -

The Horniman Public Museum
and Public Park Trust

- comprising -

Section No. 1 - Background

Section No. 2 - Scope of Works

Section No. 3 - Requirements for the return of tenders

Appendix A - Schedule of existing buildings / location plans

Appendix B - Horniman Museum and Gardens standard terms and conditions

Appendix C - Existing 10-year maintenance plan for the buildings and external areas

Appendix D - Example Condition Survey and Maintenance Plan for the existing M & E Installations

Section No. 1 – Background

The Horniman Museum

1.1 The Horniman Public Museum and Public Park Trust, an independent charitable trust, is core funded by the Department for Culture, Media and Sport. The Museum offers renowned collections on anthropology, musical instruments and natural history, an aquarium plus sixteen acres of beautiful gardens.

1.2 The Horniman's vision is to use our worldwide collections and gardens to encourage a wider appreciation of the World, its peoples and their cultures, and its environments.

1.3 The Museum and Gardens were given as free gift to the people by Victorian philanthropist and tea trader Frederick Horniman in 1901, along with his original collections. The Museum and gardens typically receive over 860,000 visitors a year. Generally entry to both Museum and gardens is free, although a charge is made for some exhibitions and activities.

Corporate objectives

1.4 Access: We will use the collections and gardens to stimulate curiosity and wonder, promoting opportunities for people of all ages, abilities and backgrounds to participate in and enjoy exhibitions, educational programmes, activities and events – both face to face and online.

1.5 Collections: We will safeguard and develop the collections so that they can be made as accessible as possible now and in the future.

1.6 Enabling: We will secure and effectively manage our resources in order to ensure the sustainability of the organisation so that we are able to provide high quality services for the benefit and enjoyment of our visitors, both real and virtual, now and in the future.

1.7 Buildings: The Horniman's aim is to manage their buildings as efficiently and sustainably as possible thereby providing a high quality environment which is safe and secure for collections, staff and visitors. The continuing aim being to develop and improve the way the Horniman operates to reduce the impact on the environment.

Location

1.8 The Horniman has two separate sites which are as follows:

The Horniman Museum,
100 London Road,
Forest Hill,
London, SE23 3PQ

The Museum Study Collection Centre,
Old School Close,
off Millennium Way,
London, SE10 0PG

1.9 The main site in Forest Hill opened in 1901 and over the last 100 years the Horniman has added to the original Grade 2* listed building. The most recent project was the construction of a new butterfly house in the gardens. The buildings at the main site are as follows (Note: a location plan is included at Appendix A):

1 Main Museum Building Complex:
   A. Original Museum
   B. Emslie Horniman building
   C. 2001 Extension
2 C.U.E Building
3 Coombe Cliff Conservatory
4 Michael Horniman Building
5 Chiller Plant Room
6 Bothy and offices
7 Bandstand
8 Dutch barn
9 Butterfly House
10 Nursery Cottage
11 Gardens Public Toilet
12 Garage / Machinery Store
13 Heated Greenhouse A
14 Heated Greenhouse B
15 Boiler Room for Greenhouses
16 Storage Sheds
17 Exhibitions Storage Shed

In addition to the above the buildings at the main site also include the following, which are not currently noted on the location plan (Note: The Estates Manager will clarify the location of these, and any others not noted on the plan, during the site visit):

18 Exhibitions Storage
19 Garden shed
20 Pavilion
21 Storage containers

1.10 The Museum Study Collection Centre in Greenwich is a former three-storey Victorian primary school. The buildings at the site are as follows (Note: a location plan is included at Appendix A):

1 Main Building
2 ~~School Keeper's House~~ - **DEMOLISHED**
3 Garage
4 Bike Shed
5 Refrigerated sea containers – 3No
6 Unheated sea containers – 3No
7 Exhibitions shed

Parties involved in the project

1.11 Project lead: Tim Hopkins,
Estates Manger,
Horniman Museum & Garden

1.12 Project Consultant: Chris Whalley,
A J Oakes and Partners

Section No. 2 – Scope of Works

Scope of works

2.1 The work is to include the preparation of the following:

- Condition Survey
- 10-year costed maintenance plan

Condition survey

2.2 A detailed external and internal condition survey is to be undertaken on all the buildings and external areas that are located across the two separate sites.

2.3 The survey work / maintenance plan is to exclude the existing mechanical and electrical installations as this is the subject of a separate commission.

2.4 All visible elements of construction are to be surveyed and reported on. The scope of works is to include (but not limited to) the following:

1. Buildings - Exterior:
    1. Roof coverings
    2. Chimneys and flues
    3. Rainwater goods
    4. External walls
    5. Damp proof courses and membranes
    6. Windows, doors and external joinery
    7. External decorations

2. Buildings - Interior:
    1. Roof space
    2. Internal loadbearing walls / structure
    3. Ceilings
    4. Partition walls
    5. Ground and intermediate floors
    6. Fireplaces and chimneys
    7. Internal windows & doors
    8. Internal joinery
    9. Staircases
    10. Fixtures and fittings
    11. Sanitary facilities
    12. Kitchen facilities
    13. Cellars

3. ~~Buildings – Mechanical services~~ – Excluded

4. ~~Buildings – Electrical services~~ – Excluded

Contd…

5. Drainage

6. External areas:
    1. Roads, paths, pavings and surfacings
    2. Fencing, railings and walls
    3. External fixtures
        A. Site / street furniture and equipment
        B. Ornamental features
    4. External drainage
    5. External services
    6. Sundry outbuildings / structures

(Note: Soft landscaped areas are not required to be surveyed/reported on)

2.4 Each element in the report is to be identifiable by its own unique reference with the following information being provided for each element:

- Location details
- Description
- Number of units or the surface area / length / height (as appropriate)
- Condition of the element and any defects identified
- Recommendations for any work considered necessary during the maintenance period.
- Estimated cost of the recommended work
- The considered priority of the works

2.5 In order to enhance and promote the Horniman's energy efficiency, recommendations should also be included in the report on any ways in which the buildings and plant can be developed and improved on.

2.6 Prior to commencement of the survey the report format is to be agreed with the Horniman. Upon completion a hard copy of the report is to be provided together with a working electronic version so that the Horniman's Estates Manager can update the information as the buildings are maintained or altered.

2.7 In setting down the considered priority of the works the following rating system is to be adopted:

1. Health and Safety / Security issues.
2. Works required to maintain visitor access to public spaces.
3. Works to maintain suitable environmental conditions for the collections.
4. Works to prevent deterioration.
5. Works to improve energy efficiency and sustainability.

10-Year Maintenance Plan with Costs

2.10 The result of the condition survey, along with suggestions for environmental improvement works are to be used to produce a 10-year planned preventative maintenance plan. The plan is to include costs commencing in the financial year 2017/18. Where works are essential in nature these should be programmed to be undertaken as soon as possible. The remaining items of work are to be then assembled into efficient packages of work to allow costs to be spread out evenly over the 10-year period.

2.11 Minor works at easily accessible levels will normally be carried as part of the Horniman's routine maintenance programme and should not be included in the maintenance plan.

Input from the Horniman

2.12 The Horniman's Estate Manager will be available during the course of the study to provide further information and advice as may be required.

Section No. 3 – Requirements for the return of tenders

Visiting site before tendering

3.1 The Consultant shall examine the brief and inspect the site and its surroundings and shall be deemed to have made himself thoroughly acquainted with the working conditions, the nature and construction of the buildings, all local and existing conditions, means of access, parking, facilities generally, and all other matters which might affect his tender. No claims for additional payments on the grounds of lack of knowledge will be entertained.

3.2 A site visit can be made by appointment with Tim Hopkins.
Tel: 020 8291 8695
Email: thopkins@horniman.ac.uk

Tender clarifications

3.3 Clarifications may be asked by email to chris.whalley@ajoakes.co.uk

Tender response

3.4 Tenders are to be returned to the following address in hard copy format by 12.00 noon on 19th July 2017:

Mr T. Hopkins,
Estates Manager,
Horniman Museum & Gardens,
100 London Road,
Forest Hill,
London, SE23 3PQ

3.5 Tender submissions must include all of the information in the following list:

1. A fixed fee quotation for the works so described in Section No. 2. The price tendered being inclusive of all travelling costs and expenses.
2. A description of the methodology that will be used.
3. A detailed programme for the works.
4. Details and examples of similar projects undertaken and in particular any projects that have involved works to listed buildings.
5. Details of your company's history and profile, including financial information.

6. Proof of professional indemnity insurance.

7. A suitable single point of contact for all correspondence relating to the tender (include: email address, postal address and telephone numbers).

8. Details of day rates to assess costs for additional services.

9. Contact details for three referees who may be contacted following the short-listing process (include: email address, postal address and telephone numbers).

10. Your company's standard contractual terms and conditions.

Supplier selection

3.6 Tender responses will be evaluated on the basis of:

1. Meeting tender / programme requirements
2. Proposed approach / method statement
3. Relevant experience
4. Costs
5. References

3.7 Tender responses will be evaluated by the Estates Manager and A J Oakes and Partners

3.8 The Museum will not be bound to accept the lowest or any tender.

Contract award

3.9 Suppliers and those organisations looking to bid for public sector contracts should be aware that if they are awarded a new contract with a publicly funded body, the resulting contract will be published. In some circumstances, limited redactions will be made to some contracts before they are published in order to comply with existing law and for the protection of national security.

Provisional programme

3.10 The provisional programme for the works is as follows:

- End of July 2017 – Select and appoint survey consultant
- August 2017 – Site survey work
- September 2017 – Handover of completed survey reports

APPENDIX A

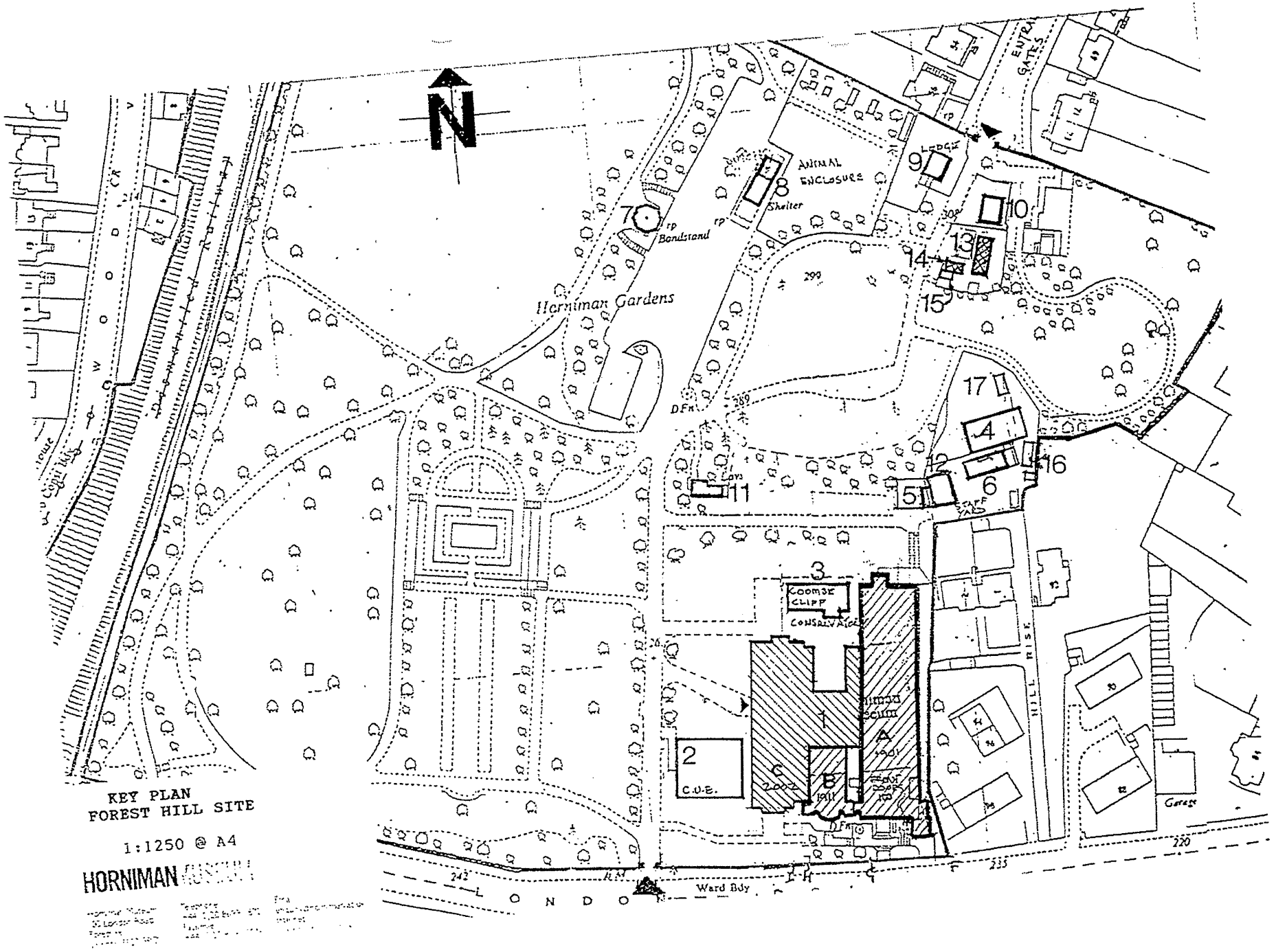
SCHEDULE OF EXISTING BUILDINGS / LOCATION PLANS

HORNIMAN MUSEUM AND GARDENS

SCHEDULE OF BUILDINGS

FOREST HILL SITE - 100 London Road, SE23 3PQ
8.57 hectares including landscaped gardens

1.	Main Museum Building Complex		5525 m2
	A Original Museum 1901 C H Townsend (3 storeys + part basement, tower)	2752 m2	
	B Emslie Horniman Building 1911 CHT (2 storeys)	523 m2	
	C 2001 Extension 2002 Allies & Morrison (3 storeys)	2250 m2	
2.	C.U.E Building 1995 Architype (1 storey)		340 m2
3.	Coombe Cliff Conservatory 1893 + 1989 Macfarlane (1 storey + tower/lantern)		163 m2
4.	Michael Horniman Building 2000 Allies & Morrison (2 storeys) conservation lab + exhibitions		454 m2
5.	Chiller Plant Room 2000 Allies & Morrison		10 m2
6.	Bothy and Offices 1960's LCC/GLC Parks (2 storeys)		260 m2
7.	Bandstand 1912? CH Townsend (1 storey + undercroft)		80 m2
8.	Dutch Barn 1890's anonymous, for JF Horniman (1 storey pavilion, 54 m2 enclosed)		115 m2
9.	~~The Lodge 1960's LCC/GLC Parks (2 storey house gardens manager)~~ BUTTERFLY HOUSE		~~112 m2~~
10.	Nursery Cottage 1996 JALA/Hotsons (2 storey house deputy gardens manager)		91 m2
11.	Gardens Public Toilet Block 1960's LCC/GLC Parks (1 storey, disabled added 1993/4)		30 m2
12.	Garage / Machinery Store 1960's? LCC/GLC Parks (1 storey)		50 m2
13.	Heated Greenhouse A 1960's ? LCC/GLC Parks		ca 30 m2
14.	Heated Greenhouse B 1990's HM		ca 30 m2
15.	Boiler Room for Greenhouses 1960's LCC/GLC Parks (1 storey partly below ground level)		ca 10 m2
16.	Gardens Storage Shed 1960's (prefab timber, moved 2001 to current site)		ca 20 m2
17.	Exhibitions Storage Shed 2000/01		18 m2
		SITE TOTAL	7238 m2


N
Horniman Gardens
ANIMAL ENCLOSURE
Shelter
Bandstand
ENTRANCE GATES
LODGE
COOMBE CLIFF CONSERVATORY
HILL RISE
C.U.E.
Ward Bdy
L O N D O
Garage
KEY PLAN
FOREST HILL SITE
1:1250 @ A4
HORNIMAN MUSEUM

STUDY COLLECTION CENTRE SITE Dreadnought St. SE10 0PU
Greenwich Peninsula, Greenwich 0.56 hectares

1.	Main Building 1893 School Board for London (former primary school, 3 Storeys, partial basement, 2 partial mezzanines)	2109 m2
2.	School Keeper's House 1893 SBL (single storey, now used as unheated store)	130 m2
3.	Garage 1893 SBL (single storey, former play shelter, now enclosed and used as unheated store)	70 m2
4.	Bike Shed 1893 SBL (single storey, enclosed for use as an unheated store)	80 m2
5.	Refrigerated Sea Containers (2 No.@ 30 m2) 1997? (chilled storage facility)	60 m2
6.	Sea Container (unheated storage)	15 m2
	SCC SITE TOTAL	2464 m2
	GRAND TOTAL BOTH SITES	9702 m2

DISK C2

...cal Government Reorganisation (Property etc.) Order 1986

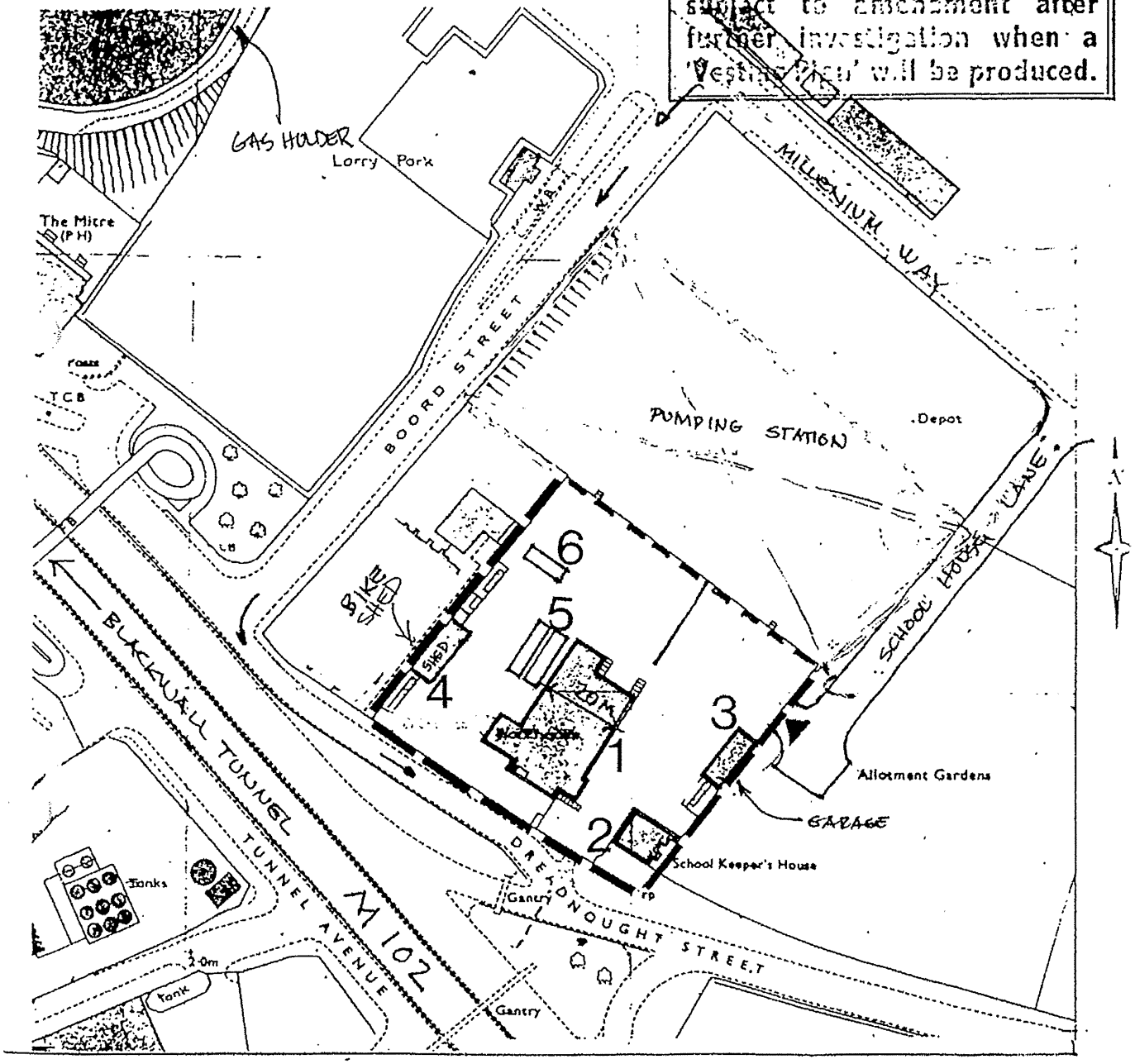
...dule 5

...he former Dreadnought Street School.

...readnought Street L.B. of Greenwich.

...ansfer to the Inner London Education Authority

NOTE
The limits shown on this plan are subject to amendment after further investigation when a 'Vesting Plan' will be produced.



Transferred Site (Freehold)

KEY PLAN
STUDY COLLECTION CENTRE SITE

1:1250 at A4

HORNIMAN MUSEUM

Horniman Museum
100 London Road
Forest Hill
London SE23 3PQ

Telephone
+44 (0)20 8699 1872
Facsimile
+44 (0)20 8291 5506

Email
enquiry@horniman.ac.uk
Internet
www.horniman.ac.uk

APPENDIX B

HORNIMAN MUSEUM AND GARDENS
STANDARD TERMS AND CONDITIONS

Horniman Museum and Gardens
Standard Terms & Conditions of Purchase for Goods and Services (March 2011)

1. Definitions

In these conditions "HMG" means the Horniman Public Museum & Public Park Trust (known as the Horniman Museum and Gardens); "Contract" means the Purchase Order together with these Conditions and any other documents attached or referred to therein; " Data" means all designs, models, mock ups, drawings, prints, samples, analysis results, data and documents of all kinds, materials, photographs, negatives, diskettes, films, software or any similar items supplied by the HMG or procured from the Supplier of any third party for the purposes of the Contract; "Goods" means the goods specified in the Purchase Order (or amendment thereof) to be supplied by the Supplier in accordance with the Contract. "IPRs" means all copyright and other intellectual property rights, howsoever arising throughout the world and in whatever media or format, whether or not registered, including patents, trademarks, service marks, database rights, trade names, design rights, performance rights (incorporating, without limitation, an irrevocable license to use the name, sobriquet, autograph, likeness, photograph, portrait, caricature, silhouette or voice of any performer), publication and distribution rights and any applications for the protection or registration of these rights, for the full period for which such copyright and other rights subsist including all renewals, revivals and extensions thereof; "Purchase Order" means the HMG's official numbered order; " Services" means the services specified in the Purchase Order including the giving of advice (or amendment thereof) to be carried out by the Supplier in accordance with the Contract; The "Supplier" means the supplier named in the order.

2. Assignment or Sub-Contracting

The Supplier shall not assign or subcontract the whole or part of the benefits or burdens under the Contract without the previous consent of the HMG. The HMG may assign or subcontract the whole or part of the benefits or burdens under the Contract to any company which is a subsidiary of the HMG.

3. Performance

Goods and Services: The Goods supplied under this Contract shall: (a) be of good and sound design, materials and workmanship; (b) be of merchantable quality and fit for the purpose(s) for which they are supplied under the Contract; (c) conform as to description, specification and quantity with the particulars stated in the Contract; (d) comply with all statutory requirements; (e) be free from any defect in title; and (f) be returnable to the Supplier within 21 days in the event the Goods are damaged or have suffered damage during manufacture or transit which could reasonably be discerned from the inspection on delivery or which are not in accordance with the Contract, in which case the Contract shall be deemed to be terminated in accordance with clause 19 (a). The Services executed under the Contract shall (a) be carried out with reasonable skill and care; (b) be carried out with due expedition and in so far as is reasonably practicable within the time if specified under this Contract; (c) comply as to the description, specification and quantity with the particulars stated in the Contract; and (d) comply with all statutory and other regulations applicable to the Services that are in force at the time and delivery of the Services.

4. Price/Payment

(a) The price(s) detailed in the Contract shall remain firm and fixed for the duration of the Contract. The Supplier shall send a detailed invoice; with VAT quoted separately, quoting the Order number to the Finance Department, Horniman Museum & Gardens, 100 London Road, London, SE23 3PQ. Payment will be made by the HMG within 30 days of receipt of a correct and valid invoice.

(b) In the case of the supply of Services: unless otherwise expressly agreed on the face of the Purchase Order the Supplier shall be fully responsible for arranging his/her travel and any accommodation (and that of any member of the Supplier's staff or any person employed or engaged by a sub-contractor, agent or servant of the Supplier) within and/or to and from the United Kingdom in connection with Contract (including but not limited to all flights, transfers and other travel arrangements, travel insurance and visas) and shall be fully responsible for meeting all costs associated with the above.

5. Delivery/Completion of Order

The Goods shall be delivered at the times, dates and place specified in the Contract. Delivery shall be deemed to be made on receipt of the Goods by the HMG in accordance with the Contract. The Services shall be deemed completed when completed in accordance with the Contract. Where the Supplier requires access to the HMG's premises in order to discharge its obligations under the Contract, the Supplier shall at all times comply with the security requirements and site rules and regulations of the HMG.

6. Inspection, Rejection and Guarantee

Without prejudice to any of its other rights hereunder, the HMG may by notice to the Supplier reject all or any of the Goods and/or Services if the Supplier fails to comply with any of its obligations under the Contract. The HMG shall not be deemed to have accepted the Goods and/or Services until the HMG has had a reasonable time after delivery to inspect the Goods and/or Services without charge. The Supplier shall at the HMG's option replace Goods or rectify Services rejected by the HMG with Goods and/or Services which in all respects conform to the Contract or credit the HMG with the invoice price thereof. The Supplier shall guarantee the Goods for the shorter of 12 months from putting into service or 18 months from delivery.

7. Risk and Property

Risk and property in the Goods shall without prejudice to any other rights or remedies of the HMG pass to the HMG at the time of acceptance of the delivery of the Goods at the HMG.

8. Damage in Transit

The Supplier shall without charge to the HMG promptly either repair or replace (at the HMG's option) any Goods damaged in transit or which having been placed in transit fail to be delivered to the HMG, provided that the HMG gives notice, within 30 days of delivery, of damage to the goods or within 10 days of the notified date of delivery that the Goods have not been delivered.

9. Labelling and Packaging

The Goods shall be packed and marked in a proper manner and in accordance with the HMG's instructions and any statutory requirements and any requirements of the carrier. The Goods shall be marked with the Purchase Order number and name of contents on

each container and all containers of hazardous Goods (and all related documents) shall bear prominent and adequate warnings. All packaging materials will be considered non-returnable and destroyed unless the Supplier's advice note states otherwise.

10. Intellectual Property Rights

Any Data supplied by the HMG for the purposes of the Contract shall remain the unencumbered intellectual property of the HMG. The Supplier warrants that in the manufacture of the Goods/ supply of Services/ provision of know-how to the HMG under the Contract the Supplier shall not infringe the IPRs of any third party and that the Supplier shall ensure that it has the right to provide such know-how and is not disclosing the same in breach of confidence. All IPRs in the Goods and/or Services (including without limitations IPR's comprised in any associated Data) prepared or developed (or to be prepared or developed) by the Supplier under or in connection with the Contract are hereby assigned to and shall vest in the HMG free from any encumbrance and with full title guarantee. The Supplier unconditionally, irrevocably and in perpetuity waives all moral and author's rights and rights of a similar nature under the laws of any jurisdiction which the Supplier may have in Goods and/or Services and any associated Data.

11. Health and Safety

The Supplier shall comply with the requirements of the Health and Safety at Work Act 1974 and any other acts, orders, regulations and codes of practice relating to health and safety in performance of this Contract and/or working on the HMG's premises.

12. Prevention of Corruption

The Supplier shall not itself or in conjunction with any other person:- (a) corruptly solicit, receive or agree to receive, for it or for any other person, or (b) offer or agree to give to any person in the HMG's service, or any other supplier who has a contract with the HMG any gift or consideration of any kind as an inducement or reward for doing or not doing anything, or for showing favour or disfavour to any person, in relation to this Contract or any other contract to which the HMG is party. Without prejudice to clause 17, the HMG may forthwith terminate the Contract with the Supplier if the Supplier is (a) in breach of clause 12; or (b) convicted of any offence under the Bribery Act 2010 and shall be entitled to recover from the Supplier inter alia the amount or value of any such gift or consideration. Any dispute or difference of opinion arising in respect of either the interpretation or effect or application of clause 12 or of the amount recoverable by the HMG from the Supplier shall be decided by the HMG whose decision on the matter shall be final and conclusive.

13. Indemnity

The Supplier shall indemnify and keep indemnified, the HMG against: (a) all claims, proceedings, actions, damages, legal costs, expenses and other liabilities whatsoever arising out of or in connection with the supply of Goods and/or Services and/or the assignment of IPR's pursuant to the Contract, in respect of death or personal injury to any person (including, without limitation, employees of the HMG), or any damage to property, loss, damages, costs, or other claim for compensation and any legal or other expenses which are awarded against or incurred by or paid or agreed to be paid by the HMG, however the same may arise, unless caused by the negligence of the HMG; (b) (in the supply of Services) any demands for any income tax and primary and secondary class 1 National Insurance or similar contribution, including any penalties or interest arising from any claim that the Supplier (which expression in paragraphs (b) (c) and (d) of this clause 13 includes or any member of the Supplier's staff or any person employed or engaged by a sub-contractor, agent or servant of the Supplier) is or was an employee of the HMG at any material time during the performance of the Contract; (c) (in the supply of Services) any claim whether statutory, contractual or at common law brought by the Supplier and arising out of or based upon an allegation that the Supplier was at any material time during the performance of the Contract an employee of the HMG; (d) (in the supply of Services) any penalties or charges incurred by the HMG in connection with the Supplier's immigration status; and (e) the HMG's reasonable costs (on a full indemnity basis) of dealing with any such claim or matter under (a), (b), (c) or (d) above.

14. Insurance

The Supplier shall be responsible for effecting its own insurances which shall include employer's liability insurance and public liability insurance. The Supplier shall effect and maintain general third party and where applicable product liability insurance cover with a combined bodily injury and property damage limit of not less than five million pounds (£5,000,000) per occurrence or series of occurrences arising from the one event and unlimited cover in any period of insurance (aggregate or product liability). Such insurance shall contain an indemnity or principals clause. The Supplier shall provide evidence of such cover to the HMG, if requested.

15. Confidentiality

The Supplier shall treat all information, data or process in connection with the Contract as confidential and shall not use any confidential information supplied by the HMG other than for the purposes of the Contract. The Supplier shall fully comply with the requirements of the Data Protection Act 1998 insofar as the same applies to the Contract.

16. Transparency

(a) The Parties acknowledge that, except for any information which is exempt from disclosure in accordance with the provisions of the Freedom of Information Act ("the Act") the text of this Agreement, and any Schedules to this Agreement, is not Confidential Information. The Authority shall be responsible for determining in its absolute discretion whether any part of the Agreement or its Schedules is exempt from disclosure in accordance with the provisions of the Act

(b) Notwithstanding any other term of this Agreement, the Contractor hereby gives its consent for the Authority to publish this Agreement and its Schedules in its entirety, including from time to time agreed changes to the Agreement, to the general public in whatever form the Authority decides.

17. Suppliers Staff

The HMG reserves the right to refuse to admit to HMG premises (or to withdraw permission to remain on HMG premises), any member of the Supplier's staff or any person employed or engaged by a sub-contractor, agent or servant of the Supplier, whose admission or continued presence would be, in the unfettered opinion of the HMG contrary to its interest.

18. Disability Rights

The Supplier warrants that all Goods and/or Services supplied under this Contract conform (or shall be capable of conforming in the hands of the HMG) with the guidance contained in the Disability Rights Commission's Code of Practice: Rights of Access: services to the

public, public authority functions, private clubs and premises (2006) a copy of which may inspected at **http://www.opsi.gov.uk/SI/si2006/20061967.htm.**

19. Termination

(a)Without prejudice to either party's other rights and remedies under this Contract or at law, either party may terminate the Contract forthwith on notice if the other ("the defaulting party"):

(i) commits a breach of this Contract and fails to remedy such breach (where it is capable of remedy) within 30 days of receipt of a notice in writing requiring it to do so; or

(ii) ceases to trade, or is unable to pay its debts as they fall due or has a petition presented or a meeting convened for the purpose of winding up the defaulting party or enters into liquidation whether compulsorily or voluntarily or compounds with its creditors generally or an administration order is made in relation to it or it has a receiver or administrative receiver appointed over all or a substantial part of its assets or any similar analogous order is made or proceeding commenced or officer appointed or action taken in consequence of debt. In the event of termination by the HMG under sub-clause 19(a), the HMG may retain from any amount due to the Supplier under the Contract an amount equal to any bona fide claim the HMG may have against the Supplier arising out of such breach.

(b)The HMG may at its convenience terminate the Contract or any part thereof at any time by giving notice to the Supplier. In this event the HMG shall subject to any other provisions of the Contract pay the Supplier for all Goods and/or Services supplied in accordance with the Contract up to the time of termination and shall otherwise be free from liability to the Supplier. Upon termination of the Contract the Supplier shall immediately return to the HMG any HMG Data or equipment or other materials belonging to the HMG which the Supplier may have in its possession.

20. Entirety

The Contract constitutes the entire agreement between the parties and shall prevail over any terms contained in the Supplier's acceptance of the Purchase Order. No terms may be implied herein from any course of regular previous dealings between the Supplier and the HMG. The Contract supersedes all prior negotiations representations and undertakings, whether written or oral, except this clause shall not exclude liability in respect of any fraudulent misrepresentation.

21. Notices

Except as otherwise expressly provided within the Contract, no notice or other communications between the parties shall have any validity under the Contract unless made in writing by or on behalf of the party concerned.

22. Scope of the Contract

Nothing in the Contract shall be construed as creating a partnership, a contract of employment or a relationship of principal and agent between the HMG and the Supplier.

23. Third Party Rights

Neither the HMG nor the Supplier confers or purports to confer on any third party any benefits or any right to enforce any term of this Contract under the Contracts (Rights of Third Parties) Act 1999.

24. Right of Audit

The HMG and/or its agents shall have the right on reasonable notice to inspect the Supplier's records relating to the supply of Goods or Services under this Contract as it may reasonably require in order to ascertain the Supplier's compliance with the terms of this Contract.

25. Governing Law

This Contract shall be governed by and interpreted in accordance with English Law and the parties submit to non-exclusive jurisdiction of the courts of England and Wales.

APPENDIX C

EXISTING 10-YEAR MAINTENANCE PLAN FOR THE BUILDINGS AND EXTERNAL AREAS

HORNIMAN MUSEUM: TEN YEAR OUTLINE PLAN													
BUILDING FABRIC	**Element**	**Description**	**Update**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
1A - Main Building													
Items 1A			day to day maint			£20,000							
North Hall (MB 3.03) *				*									
East Boundary wall			rebuilt 2012		£55,000								
South Front stonework			not done	£50,000									
Redecoration offices			not done				£24,000						
Fit out gyp room			not done				£24,000						
B items			day to day maint							£35,000	£30,000	£30,000	
Others			day to day maint							£4,100			
1B - Emslie Horniman													
Roof leadwork			repairs 2012			£7,500							
Redecoration			ext redec rep 2012					£5,000					
Others			day to day maint					£10,650					
1C - 2001 Extension													
Wall in N. 103 *			repairs as snag										
Roof			no issues										
Redecoration			day to day maint						£5,000				
Others			day to day maint						£12,575				
2 - Cue Building													
A Items			day to day maint				£1,000						£30,000
External Repairs			extern repairs &				£12,000						
Redecoration			redec 2010				£10,000						
Others									£550				
3 - Coombe Cliff Conservatory													
Coomble Cliff Conservatory			Awaiting external										
4 - Michael Horniman Building			review										
Items 1A			day to day maint							£1,000			
Balusters by hoist			day to day maint							£200			
Redecoration			day to day maint							£3,050			
Others			day to day maint							£1,500			
5 - Chiller Plant Room													
Gutter			day to day maint							£4,000			
Others			day to day maint							£2,000			
6 - Bothy and Offices													
Items 1A							£3,200						
Balcony Paving			Dec-10				£2,000						
Safety glazing			Dec-10				£2,000						
Redecoration			full refurb 2012						£6,000				
Others									£6,200				
7 - Bandstand													
Items 1A			upgraded gardens							£5,000			
New steps/repairs			project 2011							£2,000			
Electrical points										£7,000			
Redecoration										£7,500	£7,500		
Others										£12,500	£12,500		
8 - Dutch Barn													
Items 1A			upgraded gardens						£2,000				
Timber Repairs			project 2011						£12,000				
Redecoation									£22,600				
Others									£8,500				
9 - The Lodge													
Items 1A			long term review										
Redecoration			consideration										£4,000
Others													£10,000

HORNIMAN MUSEUM: TEN YEAR OUTLINE PLAN													
BUILDING FABRIC	**Element**	**Description**	**Update**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
10 - Nursery Cottage													
Items 1A			refurbed space										
Change 2 x double glazed window units			changes 2012								£3,000		
Redecoration											£9,000		
Others											£1,150		
11 - Public Toilets													
Items 1A			upgraded gardens						£1,000				
Roof			project 2011								£11,000		
Interiors											£14,350		
12 - Garage											£2,500		
13 and 14 - GreenHouses A + B													
Repairs													£30,500
15 - Boiler Room Nursery		completed March 2014	boiler replaced			£35,000							
16 - Storage Sheds													£3,200
17 - Exhibition Storage Shed													£850
18 - Exhibition Storage													
19 - Garden Shed													
20 Dreadnought													
Item 1A			Ongoing works									£30,000	
Redecorations and Improvements			programme										
External Repairs/Repointing redecs roof repairs			completed 13/14				£50,000						
Dreadnought Garage												£10,000	
Dreadnought containers												£5,000	
Dreadnought Bike Shed (Building 20)												£7,500	
EXTERNAL DECORATIONS TO ESTATE				£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000	£100,000
BUILDING SERVICES													
1A Main Building	Emergency lighting	Install additional fittings	review term cont	£4,900									
	Controls	Replace control panel		£5,000									
	Fire Alarm	Install additional devices	review term cont	£2,950									
	Disabled Alarm	Install alarm	in place	£500									
	Pumps	Replace pumps								£2,500			
	Valves	Replace valves								£500			
	Radiators	Repair		£1,000									
	AHU	Replace											
	Humidifier	Replace	ultrasonics 2012										
Aquarium plant room	Fan coils	Replace bearings									£1,000		
	Fan coils	Replace											
	Fans	Replace											
Clock tower	Water tank	Replace tanks					£4,000						
1B Emslie Horniman	Emergency lighting	Install additional fittings	review term cont	£1,000									
	Fire alarm	Install additional devices	review term cont	£300									
1C 2001 extension	emergency lighting	Install additional fittings	review term contract	£750									
	Fire alarm	Install additional devices	review term contract	£650									
2 CUE Building	Emergency lighting	Install additional fittings	review term contract			£800							
	Fire Alarm	Install additional devices	review term contract			£550							
3 Conservatory	Fire Alarm	Install devices ?	review with new report			£750							

HORNIMAN MUSEUM: TEN YEAR OUTLINE PLAN													
BUILDING FABRIC	**Element**	**Description**	**Update**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
4 Michael Horniman Building	Emergency Lighting	Install additional fittings	review term contract			£1,200							
	Fire alarm	Install additional devices	review term contract			£2,000							
6 Bothy Building	Emergency lighting	Install additional fittings	upgraded as part			£3,800							
	Fire alarm	Install additional devices	of 2012 refurb			£1,300							
	Calorifier	Replace			£5,000								
	Pipework	Replace			£6,000								
8 Dutch Barn	Emergency lighting	Install additional fittings	upgraded gardens			£600							
	Fire Alarm	Install additional devices	project			£300							
11 External toilet block	Emergency Lighting	Install additional fittings	upgraded gardens project			£400							
13 &14 Greenhouses	Boiler	Replace	replaced	£15,000									
	Controls	Replace	Mar-14	£3,000									
20 Dreadnought	Radiators	Replace					£8,800						
	Humidifiers	Replace	ultrasonics 2011					£25,000	£20,500				
	Lighting	Replace								£2,000			
	Emergency lighting	Install additional fittings	review term cont	£250									
	AHU	Replace				£10,000							
	RO Equipment	Replace	replaced 2011			£4,000							
North Boiler room	Boilers	Replace	future funding bid										
	Pumps	Replace	future funding bid										
	Controls	Replace	future funding bid										
	Fan coils	Replace	future funding bid										
	Humidifier	Replace	future funding bid										
Chiller compound	Chillers	Replace 2014/15	instal sept/Oct 14										
Lighting review	Lighting	Review options to replace lighting	fibre optics 2012										
Humidification review	Humidification	Implement recommendations	ultrasonics 2012			£10,000							
		Review options to replace humidifiers											
		Implement recommendations											
Totals				**£35,300**	**£11,000**	**£35,700**	**£12,800**	**£25,000**	**£20,500**	**£5,000**	**£1,000**	**0**	**0**
TOTALS													
Fabric				£150,000	£155,000	£155,000	£178,750	£165,650	£176,445	£184,850	£191,000	£182,500	£178,550
Services				£35,300	£11,000	£35,700	£12,800	£25,000	£20,500	£5,000	£1,000	-	-
TOTAL				**£185,300**	**£170,000**	**£190,700**	**£191,550**	**£190,650**	**£196,945**	**£189,850**	**£192,000**	**£182,500**	**£178,550**

* Items for which it is understood separate budgets have been provided elsewhere

** In all cases no allowance has been made for contractors preliminaries (20%); project contingency (10%) and contractors overheads and profits (10%)

APPENDIX D

EXAMPLE CONDITION SURVEY AND MAINTENANCE PLAN FOR THE EXISTING M & E INSTALLATIONS

RIDGE

PROPERTY & CONSTRUCTION CONSULTANTS

HORNIMAN MUSEUM & GARDENS

HORNIMAN MUSEUM & STUDY COLLECTION CENTRE M&E CONDITION REPORT

September 2016

Prepared for

Horniman Museum
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London
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VERSION CONTROL

Project Name Horniman Museum

Project No. 5000758

VERSION	DATE	DESCRIPTION	CREATED BY	REVIEWED BY
1.0	15.09.2016	Final draft	KB	AE

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1. INTRODUCTION

1.1 Scope/Brief

Ridge was instructed by Mr Tim Hopkins on behalf of The Horniman Museum and Gardens to produce a 5 year life Mechanical and Electrical condition report of the existing services.

The scope of the report is limited to the engineering plant and equipment serving the main Museum complex within South London and the Study Collection Centre located on the Greenwich Peninsula. Passenger and/or goods lifts, lifting equipment, accessible stair lifts and window cleaning equipment have not been surveyed and has not been included as part of this report.

The survey was carried out during July and August 2016.

1.2 Qualifications to Brief

The cost estimates include reasonable builders work but do not include for any redecoration, main contractor's mark-ups, statutory authority and professional fees, or VAT. Inflation, from the time of this report to present, should be taken into account when using this report at a later date. The estimates do not include costings for consumable items, e.g. filters, drive belts, lamps, batteries, etc. Where access was restricted or limited, estimations of remaining life have been based on the general condition seen in other areas. Unless otherwise identified in the report, it does not take account of the history of defects and failures known to the on-site maintenance teams.

The surveys carried out to produce this report did not include any testing of equipment or systems.

1.3 Reservations

This report has been prepared for The Horniman Museum and Gardens. Ridge does not accept any responsibility for use of the report by others.

The report is based on a visual inspection only, carried out where sufficient safe access was available and during normal working hours (unless otherwise agreed). No equipment or plant was removed, dismantled or tested. If removal, dismantling or testing is considered to be required, this will be identified in the report and will be subject to agreement on additional fees.

Whilst Health and Safety items may have been identified in this report, it should not be considered a complete report on health and safety, and this should be addressed separately as necessary.

2. ESTIMATION OF COSTS

2.1 General

The anticipated life span of equipment is based on standard guidelines such as those given by the Chartered Institute of Building Services Engineers, engineering experience, the visible condition of the plant, operating hours and any relevant information provided by the on-site team.

In the majority of cases, the equipment may continue to operate beyond its anticipated lifetime, dependent on the quality of maintenance. However, in these circumstances this could possibly mean the equipment is less economical to run and there may be difficulty in obtaining spare parts, which may take longer to source, causing increased system down time and tenant disruption. By continuing to operate older plant, the risk of failure also increases.

Whilst the costs have been based on existing equipment, suitable alternatives should be considered when deciding on replacement, particularly where more energy efficient systems and equipment could be used.

It is recommended that at least two competitive quotations be sought wherever replacement or upgrade works are implemented. In the case of larger project works (£5,000 and above), it is recommended that a full specification and tender process for the works be carried out.

2.2 Budgeting Considerations

Consideration has been given to balancing the costs per year where possible, however this is not always consistent with engineering consideration of replacement intervals, especially as the age of the plant becomes more of a factor in the later years. In some instances where replacements have been deferred with a view to balancing of costs per year, contingency sums have where appropriate been allowed for repairs that may be required as a result of this.

Where appropriate, repair/replacement of parts of a plant item (as opposed to the whole plant item) has been allowed for in order to extend the beneficial use of the item of plant and defer total replacement to a later date.

The purpose of this report is to facilitate planning of funds in order that they are available when required. However, the programming of expenditure is not intended to be fixed. It is recommended that the plant be resurveyed at least annually in order to provide annual updates. On each occasion of updating or reviewing it should be considered whether plant should be repaired/replaced earlier than previously proposed or whether it is appropriate to defer repair/replacement, taking into account various factors that would affect this (e.g. operating hours, plant reliability/breakdowns, risk of failures and associated unplanned disruption, extent/cost of any repairs that may be needed, age, obsolescence, energy efficiency, etc.). Unless otherwise instructed, it is understood that if it is considered appropriate to defer some expenditure to a later date, funds allowed for this can be accrued to the following year.

2.3 Description of Building and Services

2.3.1. Original Museum Building

The original Horniman Museum; built in 1901; is a three storey (Basement to Ground floor) brick build building with stone facing along the South elevation. The building is situated within South London along the A205, South Circular highway (London Road) and stands within its own landscaped grounds.

The building includes two main exhibition halls (North & South) which are situated on the ground and lower ground levels. A dedicated Aquarium is situated within the basement area.

South Exhibition Hall - Heating & Humidification

A dedicated Air Handling Unit (AHU) situated within the basement courtyard of the building provides heated and humidified air to the South Exhibition Hall and basement. Air is recirculated accordingly via the AHU.

Duct work is routed to the area via the basement and rises to serve a low level plenum within the South Hall.

South Hall Basement- Heating & Humidification

A dedicated AHU situated within the basement South Hall plant room provides heated and humidified air to the South Hall basement area only. Air is recirculated accordingly via the AHU.

Low Temperature Hot Water (LTHW) is provided to both the South Hall & South Hall Basement handling units from the Boiler plant located within the South Hall Boiler room.

North Hall - Heating and Humidification

Heating and humidification is provided to the North Hall via rudimentary fan coil units (FCU) which are located at low level within the areas structural columns. Each FCU consists of an electric fan which is installed above a medium bore heating coil. Moisture is introduced into the air stream by an electrode steam humidifier before it is delivered into the space at low level via a filtered transfer grille.

2.3.2. Extension Building

An Extension to the original museum building was constructed during 2001/2. The three storey building consists of the following areas:

Lower Ground (Level 1)

Centenary Galley
Music Gallery
Temporary Gallery
Gallery Square

Ground (Level 2)

Lower Ground WC's
Orientation Space
Museum Shop
Front & Rear Education Centre
Hands on space
Cafeteria

First (Level 3)

Engineering Plant room
Meeting room

Comfort heating and cooling

Chilled water is provided to the building by 2No external air cooled packaged chillers to serve Air Handling Units 1 & 2 located within the level 3 plant room the Carse Room and Centenary Gallery AHU. Pipework from the enclosure is routed to the plant room via insulated underground pipework.

LTHW is provided (via the North Hall Boiler installation located within the basement of the original museum building) to the heating coils of the following Air Handling Units:

AHU Reference	Area Served	AHU Location
01	Temporary Gallery	Level 3 Plant Room
02	Music Gallery	Level 3 Plant Room
03	Cafeteria	Level 3 Plant Room
04	Level 2 Entrance lobby	Level 3 Plant Room
05	Level 2 Kitchen	Level 3 Plant Room
06	Level 2 Shop	Level 3 Plant Room
07	Education WC's Supply	Level 3 Plant Room

The North hall Boiler installation also serves the radiator circuits within the extension building.

Ventilation

Mechanical Extract is provided throughout the extension building as follows:

Extract Unit Reference	Area Served	Extract Fan location
F01	Level 1 WC's	Dimmer Room
F02	Level1 Education WC's	Level 3 Plant Room
F04	Cloak Room	Level 3 Plant Room
F05	Kitchen Hood	Level 3 Plant Room
FO5	Cafeteria Dishwasher Extract	Level 3 Plant Room
F07	Office Supply	Level 3 Plant Room
F08	Office Extract	Level 3 Plant Room

F10	Lift Motor Room	Lift Motor Room
F11	Temporary Gallery Store	Temporary Gallery Store
F12	Level 3 Plant Room	Level 3 Plant Room

Hot Water Services

Domestic hot water services to the Extension building WC's is provided by 1No indirect hot water calorifier located within the level 3 plant room of the building. The LTHW is provided by the North Hall Boiler room, however the calorifier is equipped with an integral 3 kW electric immersion heater.

Cold water Services

Main cold water is routed from the South Hall Boiler room to serve the Wash Hand Basins within the extension building WC's as well as the humidifiers within the level 3 Engineering plant room and Level 2 Centenary & temporary Galleries. This service is further routed to serve the Cold Water Storage Tank ,also located within the level 3 plant room which in turn provides the cold water down service to the flushing WC's and cleaner sinks.

A Motorised two port valve; linked to the BMS control system; is provided to isolate the cold water services upon mains failure and outside of normal working hours.

A cold water main connect is provided for the external chiller enclosure off the existing adjacent site main. This serves the chilled water pressurisation set and a hose point.

2.3.3. Cafeteria Kitchen

Hot Water Services

Domestic hot water services to the Cafeteria is provided by 1No indirect hot water calorifier located within the level 3 plant room of the building. The LTHW is provided by the North Hall Boiler room, however the calorifier is equipped with an integral 3 kW electric immersion heater.

Cold water Services

Cold water services to the Cafeteria kitchen are mains fed via a separate water main which emanate from the South Hall Boiler room. A Motorised two port valve; linked to the BMS control system; is provided to isolate the cold water services upon mains failure and outside of normal working hours.

Gas Services

Gas services are provided to the Kitchen via the North Hall boiler room.

2.3.4. CUE Building

Constructed in 1996, the Cue building is a single storey timber framed and clad building.

Hot Water Services

Domestic hot water services to the Cue Building are provided directly from the existing Ground floor Boiler installation.

Cold water Services

Mains cold water enters the building via the ground floor boiler cupboard to serve the main heating boiler and the buildings WC's.

Ventilation

Mechanical Extract is provided to the Cue Building and Café Kitchen as follows:

Extract Unit Reference	Area Served
F03	Cafeteria & Kitchen WC's
F13	Cue WC's
F14	Cue WC's

2.3.5. Michael Horniman Building

The Michael Horniman Building is a two storey brick built building and is used to undertake artifact conservation and restoration work. The ground and first floors of the building provides workshop and laboratory facilities.

Heating

Low temperature hot water for comfort heating purposes is provided by 1No wall mounted gas fired boiler located within the ground floor kitchen. LTHW is routed throughout the building via surface mounted pipework to serve wall mounted panel type radiators. An LTHW circuit rises vertically to serve the heater battery within the first floor "Make up air"; Air handling unit

Ventilation

Make up air to the laboratories is provided by a bespoke air handling unit located within the first floor ceiling void. Tempered fresh air is routed throughout the occupied space via ceiling mounted galvanised ducting and delivered via dedicated ceiling air diffusers.

Fume extract system

Central fume extract plant serving the laboratories is located in the first floor plantroom. Vitiated air from the local point of use extract hoods and fume cupboards is drawn through dedicated extract ductwork and expelled to atmosphere via a vertical flue a dedicated extract fan is provided to the ground chemical store.

Cold Water Services

Mains cold water enters the building at ground floor level to serve the cold water outlets throughout the building including the laboratories, workshop and WC's.

Hot Water Services

Domestic hot water to the building is provided by 1No unvented, 145 litre, electric water heater located within the ground floor kitchen.

Gas Services

Mains gas enters the building at ground floor level within the kitchen to serve the main boiler installation.

2.3.6. The Pavilion

The Pavilion is a single storey brick built building which provides conferencing and lecture facilities.

Comfort Heating

A dedicated ground source heat pump provides heating to the pavilion via under floor heating coils. Hot water generated by the unit is circulated by a pump set to the underfloor manifolds. The heat pump also provides primary hot water to the domestic hot water calorifier.

Hot Water Services

Domestic hot water to the pavilion is provided by 1No vertical; indirect hot water cylinder. A circulating pump is provided in the hot water secondary return to alleviate cold water dead legs.

Cold Water Services

A cold water booster set with integral tank has been provided for the education building, located in the plant room. The booster set provides water for the animal enclosure and irrigation points.

Ventilation

Tempered fresh air is provided to the pavilion by a dedicated air handling unit complete with heat recovery and serves the main lecture room via high level grilles. Air is extracted from the lecture room via door grilles and ducted back to the AHU via high level galvanised ducting. A high level wall mounted extract fan is provided in the furniture store

2.3.7. Dutch Barn

Hot water Services

Domestic hot water is provided by an electric; point of use hot water heater.

Cold water services

Mains cold water enters the building to serve a sink unit and point of use hot water heater.

2.3.8. The toilet block

Hot water Services

Domestic hot water is provided by an electric; point of use hot water heater.

Cold water services

Mains cold water is provided to the block to serve the wash hand basins and domestic hot water heater.

The toilet block is provided with a new cold water main servicing new sanitary ware and an electric hot water heater. The hot water from the new water heater provides hot water to the new taps.

A cold water booster set complete with integral tank is located within the cleaner's cupboard and provides boosted cold water to the green house irrigation points.

Ventilation

Air is extracted from the block via three wall mounted heat recovery fan units which are located within the male, female and accessible toilets respectively.

2.3.9. Bothy Building

The Bothy Building is a two storey brick built building. The ground floor of the building provides storage and office accommodation for the sites landscape gardening team. The first floor provides office accommodation only.

Heating

Low temperature hot water for comfort heating purposes is provided by 1No wall mounted gas fired boiler located within the ground floor store. LTHW is routed throughout the building via surface mounted pipework to serve wall mounted panel type radiators.

Hot water Services

Domestic hot water is provided to the ground floor showers and wash hand basins throughout by a vertically mounted, indirect hot water calorifier located within the ground floor store.

Cold water services

Mains cold water enters the building within the ground floor store to serve the main boiler, hot water calorifier and cold water outlets within the ground and first floor WC's.

Ventilation

The building is naturally ventilated.

2.3.10. The Lodge

The Nursery cottage is a two storey dwelling.

Domestic Heating & Hot water

Domestic heating and hot water is provided by 1No wall mounted gas fired boiler located within the ground floor . LTHW is routed throughout the building via surface mounted pipework to serve wall mounted panel type radiators.

Cold water services

Mains cold water enters the building within the ground floor to serve the main boiler, and cold water outlets within the kitchen & Bathroom.

Ventilation

The building is naturally ventilated.

2.3.11. Nursery Cottage

The Nursery cottage is a two storey dwelling which has been converted to provide limited office accommodation.

Domestic Heating & Hot water

Domestic heating and hot water is provided by 1No wall mounted gas fired boiler located within the ground floor. LTHW is routed throughout the building via surface mounted pipework to serve wall mounted panel type radiators.

Cold water services

Mains cold water enters the building within the ground floor to serve the main boiler, and cold water outlets within the ground floor kitchen & WC's.

Ventilation

The building is naturally ventilated.

2.4 Horniman Museum Site - Electrical Services

Main low voltage electrical distribution

The original Museum building including the 2001 extension and Cue building are electrically served via the main switchroom located within the basement of the original Museum building.

Sub-main distribution is via rising mains to serve dedicated 3 phase sub main switchboards which are strategically located throughout each of the buildings. These switchboards serve various single phase distribution boards to provide local lighting and power services.

The following buildings are provided with separate metered supplies:

- The Pavilion,
- The Lodge
- Nursery Cottage
- Conservatory
- Dutch Barn
- Michael Horniman Building

Small Power Installation

Single and twin 13A switched socket outlets are provided throughout each of the sites for general use and cleaning purposes.

General lighting

General Lighting throughout each of the sites varies but generally comprises of linear fluorescent luminaires, decorative down lighters and LED type spotlights. Lighting within the engineering plant areas consists of a combination of manually switched surface or suspended fluorescent batten type luminaires. Automatic lighting control is provided within the 2001 extension building and Pavilion.

Emergency Lighting Installation

Emergency lighting throughout the each of the buildings is predominantly self-contained maintained inverter units mounted within primary luminaires to illuminate normal lamps under mains failure. Illuminated emergency exit signs are provided throughout each of the buildings required the building and are of the maintained type complete with the “running man”.

2.5 Horniman Museum - Drainage Installation

The site is provided with foul and surface water drainage systems which discharge into the local authority sewer system under gravity. Drainage from sanitary appliances and rainwater pipe work within each of the buildings is collected within soil vent pipe work and routed to the public drainage system accordingly. Sump pumps have been fitted in basement boiler rooms to remove any collected surface water.

Access points and inspection covers have been provided throughout the system to facilitate maintenance.

2.6 Horniman Museum - Fire Protection

Fire Alarm

The sites fire alarm system consists of a hard wired, fully automatic and addressable installation with the main control panel located within the ground floor reception area of the main entrance. Repeater panels are located within each of the outbuildings to provide both local and main panel indication of any given activation.

The system is interfaced with the sites gas and mechanical services. Activation within any given building is achieved through the use of an either/or manual call points, smoke/heat detectors, and beam detectors. Portable firefighting appliances are also provided throughout the public and staff areas.

3. HORNIMAN MUSEUM CONTROLS REVIEW

A review of the control installations was undertaken at the Horniman Museum on 8th June 2016. The weather conditions were dry and warm. The comments made on the system are based on a review of the head end supervisors individual pages. A review of the BMS strategy was not undertaken as part of this exercise.

The BMS comprises a Trend 963 head end located in the building control/ security room. The equipment was installed in 2012 to replace an existing BMS.

The Trend supervisor provides the following functions

- Overall plant control
- Adjustment of set point and operating times
- Plant monitoring
- Building monitoring
- Metering
- Plant run hours (for maintenance required alarms)
- Reporting of faults and plant alarms

Motor Control Panels are installed to serve the following

- CP01 Lecture Hall Control – Basement Boiler Plant Room
- CP02 South Hall Control Panel – Basement Boiler Plant Room
- CP03 Decentralised North Hall Boilers
- CP04 Dark Room Plant Room
- CP05 CUE Building Control Panel
- CP06 Chiller Compound Control Panel
- CP07 Bothy Building Control Panel
- CP08 Main Building Galleries Level 3
- CP09 Window Actuator Control Panel
- CP10 Main Galleries Level 1
- CP11 Cabinet Temperature/ Humidity Sensors
- CP12 Centenary Gallery Temperature/ Humidity Sensors
- CP15 North Hall Gallery Temperature/ Humidity Sensors

Outstation panels are located in the following areas

- CP11 Cabinet Temperature/ Humidity Sensors
- CP12 Centenary Gallery Temperature/ Humidity Sensors
- CP15 North Hall Gallery Temperature/ Humidity Sensors

The chillers are equipped with their own integral controllers.

The original controls strategy states that the temperature and humidity sensors are set as follows

- Temperature 21°C
- Dead band 3°C

- Humidity 50%RH
- Dead band 15%

The set points that are detailed in the control strategy will not provide close control conditions; the dead bands for the temperature and humidity are greater than would be typically set for a museum environment if protection of exhibits is required.

General Observations from site visit

Initial findings from viewing the main supervisor pages are detailed as follows
Music Gallery 23.1°C 71.6% RH
Temporary Gallery 21.6°C 65.4% RH
Centenary Gallery 22.9°C 61% RH
South Gallery 25.8°C 52% RH

The temperature in the South Gallery is outside of the control range as is the humidity level within the Music Gallery.

The chilled water flow and return temperatures were 14°C flow and 16.6°C return. The chilled water flow set point is 8° C the temperatures observed on site are higher than would be typically expected for a chilled water circuit – typical settings 12/13°C flow and 7/8°C return.

The following external conditions were noted
Outside air temperature 25°C
Outside humidity 56.9%RH

Review of AHU's

Each AHU has its own page on the BMS supervisor displaying the operational status of the AHU; this includes whether the AHU is running, status of the coil i.e. if the coil is operating and the percentage feedback on how much the valve is open, status of dampers, temperatures and humidity etc.

The AHU supply air temperatures were noted to be as follows
Music Gallery
Temporary Gallery
Centenary Gallery
South Gallery 27° C
The BMS logs detailing the positions of the recirculation dampers were noted as follows
Music Gallery – Fixed at 20% recirculation
Temporary Gallery – Fixed at 20% recirculation
Centenary Gallery – Fixed at 10% recirculation
South Gallery – Fixed at 100% fresh air

AHU's individual review

South Gallery

Unit operating in 100% fresh air mode. The heating coil appears to be letting by as there is a temperature difference across the unit. This unit is heating only.

Aquarium AHU 2

Unit operating in cooling – coil at 100%. The heater battery has a temperature difference across the flow and return; this indicates that the valve is letting by. Supply temperature 18.4° C set point 12° C. This set point is very low and unlikely to be achievable from the installed equipment.

Aquarium AHU 1

This AHU is heating only. The frost alarm is active. There is also a second supply air AHU on the graphic page this is cooling only, as the supply air temperature is 29° C this indicates that the coil is not functional.

Centenary Gallery AHU

Unit operating in cooling – coil at 100%. The unit is in recirculation mode with minimal fresh air. The return air/ humidity readings do not correlate with the supply air conditions as the humidity is lower on the return.

Temporary Gallery AHU 1

This unit is operating in cooling – coil at 100%. The supply air set point is 14° C with the AHU achieving a supply air temperature of 19° C. It is unlikely that the cooling coil will be able to meet the set point. The supply humidity is 99.9%RH. As the return condition is 65% RH the supply sensor must require recalibrating.

Music Gallery

This unit is operating in cooling – coil at 100%. The supply air set point is 14° C with the AHU achieving a supply air temperature of 19.9° C. It is unlikely that the cooling coil will be able to meet the set point. The supply humidity is 87.8%RH. As the return condition is 56.8% RH the supply sensor must require recalibrating.

Café AHU 03

This unit is heating only. Supply and extract units both operational.

Kitchen Ahu 05

Café AHU 03

This unit is heating only. Supply and extract units both operational.

Shop AHU 06

This unit is operating in cooling – coil at 100%.

Education AHU 07

This unit is heating only. Supply and extract units both operational.

Main Building Natural Vent

This system is stated as not commissioned on the BMS supervisor.

Time schedules

Office AHU's time zones

South Hall – 24hr Monday – Sunday
Aquarium – 24hr Monday – Sunday
Centenary – 24hr Monday – Sunday
Temp Gallery – 24hr Monday – Sunday
Music Gallery – 24hr Monday – Sunday

AHU Time schedules

Office AHU 9.00-18.00 Monday – Sunday
Kitchen AHU 5.30-22.00 Monday – Sunday
Shop 6.00-18.00 Monday – Sunday
Café 7.55-22.00 Monday – Sunday
Education 7.00 – 22.00 Monday – Sunday

The time schedules are set for extended operation in the evenings across a number of areas, it is anticipated that the extension of time is based upon the areas use, or the area is open for a longer period. The BMS pages for the AHU's all differ and there is not same information recorded for every AHU.

BMS Alarms

At the time of survey the following alarm conditions were noted
423 Strategy specific alarms
905 Sensor alarms
107 Critical alarms

3.1 BMS Summary/Recommendations

The number of alarms which are present on the system raise concern as these either need investigating and clearing or faults to be rectified. The large number of alarms suggests that the system is not being monitored.

The various AHU's provide the primary cooling to the space. A review of the BMS supervisor pages determined that the majority of the AHU's have either control or operational issues. This being evident from the return humidity percentage being lower than the supply. Some of the supply air set points are lower than the AHU plant is able to achieve.

The operation of the recirculation dampers requires review to ensure they are operating in accordance with the internal/ external conditions.

It is recommended that a full review of the BMS is undertaken to ensure the strategy is correct for the use of the space and the control conditions required.

The review of the BMS should include checking of all the field control devices to ensure they are functioning correctly and operating under the dictate of the BMS strategy.

4. STUDY COLLECTION CENTRE

Situated on Old School close on the London Greenwich peninsula, the Study Collection Centre is a brick built three storey, converted school building constructed during the late 1800's. The building stands within its own grounds.

Heating

Low temperature hot water for comfort heating purposes is provided by 2No wall mounted gas fired boiler located within the lower ground boiler room.. LTHW is routed throughout the building via surface mounted pipework to serve a combination of wall mounted hospital type column radiators and panel radiators.

Hot water Services

Domestic hot water is provided to the mezzanine floor Toilet/shower area by a wall mounted unvented hot water heater.

Cold water services

Mains cold water enters the building within the lower ground floor to serve the main boiler, hot water heater and cold water outlets throughout the building including the WC's.

Ventilation & Humidification

Local, window mounted, extract fans are provided to the toilet area and individual offices.

The main Hall and the Artifact storage rooms which form the perimeter of the main hall are provided with ceiling mounted air circulation fans complete with speed controllers. Bespoke humidification units are provided with each of the artifact rooms and main Hall..

Electrical

Main low voltage electrical distribution

Mains electricity enters the building via the lower ground to serve a bespoke wall mounted main switch panel.

Sub-main distribution cable is routed throughout the building to serve dedicated single and three phase distribution boards which are strategically located throughout each of the buildings to provide local lighting and power services.

Small Power Installation

Single and twin 13A switched socket outlets are provided throughout the site for general use and cleaning purposes.

General lighting

General Lighting throughout the building generally comprises of suspended, linear fluorescent luminaires. Lighting within the Boiler room consists of manually switched surface mounted fluorescent luminaires.

Emergency Lighting Installation

Emergency lighting throughout the building is predominantly self-contained maintained inverter units mounted within primary luminaires to illuminate normal lamps under mains failure. Illuminated emergency exit signs are provided throughout and are of the maintained type complete with the “running man”.

Drainage Installation

The site is provided with foul and surface water drainage systems which discharge into the local authority sewer system under gravity. Drainage from sanitary appliances and rainwater pipe work is collected within soil vent pipe work and routed to the public drainage system accordingly..

Fire Protection

Fire Alarm

The buildings fire alarm system is a hard wired, fully automatic; installation with the main control panel located on the ground floor within the main hall. Activation is achieved through the use of an either/or manual call points, or smoke/heat detectors. Portable firefighting appliances are also provided throughout the building.

5. ASSET & CONDITION REGISTER

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Control Panel - MCCP-CP02	Basement - North Hall Boiler room	Manufacturer: N/A. Model N/A. This unit is approximately 20 years old and is considered to be in Equipment redundant condition commensurate with its age.	This equipment is redundant. Allowance to remove the unit and dispose of.	4	300.00					Equipment considered redundant
1.02	Control Panel - Fan Coil Unit Dark room	Basement - North Hall Boiler room	Manufacturer: N/A. Model N/A. This unit is approximately 20 years old and is considered to be in Equipment redundant condition commensurate with its age.	This equipment is redundant. Allowance to remove the unit and dispose of.	4	300.00					Equipment considered redundant
1.03	LPHW pressurisation unit	Basement - North Hall Boiler room	Manufacturer: Pillinger. Model unknown. This unit is approximately 25 years old and is considered to be in satisfactory condition commensurate with its age.	This unit is at the end of its economic life expectancy. Allowance to replace the unit due to physical obsolescence.	3	4,000.00					Complete with 2 no. 300 litre expansion vessels
1.04	LTHW boiler No 1 - Gas Fired, Floor Mounted	Basement - North Hall Boiler room	Manufacturer: MHS/ Regency. Model GBS Series 2; Heat output 87kW.. This unit is approximately 25 years old and is considered to be in Poor condition.	This unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Allowance to replace the unit due to physical and technical obsolescence. Cost includes allowance for a replacement flue arrangement and Local gas, electrical and control modifications.	4	15,000.00					
1.05	LTHW boiler No 2 - Gas Fired, Floor Mounted	Basement - North Hall Boiler room	Manufacturer: MHS/ Regency. Model GBS Series 2; Heat output 87kW.. This unit is approximately 25 years old and is considered to be in Poor condition.	This unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Allowance to replace the unit due to physical and technical obsolescence. Cost includes allowance for a replacement flue arrangement and Local gas, electrical and control modifications.	4	15,000.00					
1.06	LTHW boiler No 3 - Gas Fired, Floor Mounted	Basement - North Hall Boiler room	Manufacturer: MHS/ Regency. Model GBS Series 2; Heat output 87kW.. This unit is approximately 25 years old and is considered to be in Poor condition.	This unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Allowance to replace the unit due to physical and technical obsolescence. Cost includes allowance for a replacement flue arrangement and Local gas, electrical and control modifications.	4	15,000.00					
1.07	LTHW boiler No 4 - Gas Fired, Floor Mounted	Basement - North Hall Boiler room	Manufacturer: MHS/ Regency. Model GBS Series 2; Heat output 87kW.. This unit is approximately 25 years old and is considered to be in Poor condition.	This unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Allowance to replace the unit due to physical and technical obsolescence. Cost includes allowance for a replacement flue arrangement and Local gas, electrical and control modifications.	4	15,000.00					
1.08	LTHW Boiler return shunt pump No 1	Basement - North Hall Boiler room	Manufacturer: Grundfos. Model Unknown. This unit is approximately 25 years old and is considered to be in Poor condition.	This pump unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Replace the unit as part of the North Hall boiler replacement works	4						
1.09	LTHW Boiler return shunt pump No 2	Basement - North Hall Boiler room	Manufacturer: Grundfos. Model Unknown. This unit is approximately 25 years old and is considered to be in Poor condition.	This pump unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Replace the unit as part of the North Hall boiler replacement	4						
1.10	LTHW Boiler return shunt pump No 3	Basement - North Hall Boiler room	Manufacturer: Grundfos. Model Unknown. This unit is approximately 25 years old and is considered to be in Poor condition.	This pump unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Replace the unit as part of the North Hall boiler replacement	4						

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.11	LTHW Boiler return shunt pump No 4	Basement - North Hall Boiler room	Manufacturer: Grundfos. Model Unknown. This unit is approximately 25 years old and is considered to be in Poor condition.	This pump unit is at the end of its economic life expectancy and appears to be running constantly 24 hours / 7 day a week. Replace the unit as part of the North Hall boiler replacement	4						
1.12	Chemical dosing pot	Basement - North Hall Boiler room	Manufacturer: Aldous & Stamp Ltd.. Model Unknown. This unit is approximately 25 years old and is considered to be in Poor condition.	Replace the unit as part of the North Hall boiler replacement	4						
1.13	LTHW heating pump set	Basement - North Hall Boiler room	Manufacturer: Wilo Pumps. Model TOPSD40/7. This unit is approximately 3 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine planned Maintenance.	3						Serves the heating fan coil unit within the void under stairs of aquarium
1.14	Constant temperature LPHW twin pump set	Basement - North Hall Boiler room	Manufacturer: Wilo Pumps. Model TOPSD50/15. This unit is approximately 1 year old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine planned Maintenance.	2						Serves gallery fan coil units
1.15	Gas fired condenser boiler No 1 - Wall Mounted	Basement - South Hall Boiler Room	Manufacturer: Keston Heating . Model C110. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence.	3				10,000.00		
1.16	Gas fired condenser boiler No 2 - Wall Mounted	Basement - South Hall Boiler Room	Manufacturer: Keston Heating . Model C110. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence.	3				10,000.00		
1.17	LTHW Twin head heating pump set	Basement - South Hall Boiler Room	Manufacturer: Grundfos. Model UPSD 50-60/4F Model C. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence.	3		2,000.00				Notice posted on 1no. Pump stating "pump set to be looked at" suggesting that unit is currently defective.
1.18	Boiler room supply fan	Basement - South Hall Boiler Room	Manufacturer: unknown. Model unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Unit observed running. Allowance to replace the unit due to physical obsolescence.	3			4,000.00			Including associated duct work and controller. Satisfactory (unit running).
1.19	South Hall air handling unit (supply)	Basement - South Hall Boiler Room	Manufacturer: unknown. Model unknown. This unit is approximately 20 years old and is considered to be in poor condition.	Allowance to replace the unit due to physical and technical obsolescence.	4		15,000.00				
1.20	Air and dirt separator - LTHW	Basement - South Hall Boiler Room	Manufacturer: Clean Vent. Model unknown. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine planned Maintenance.	3						High level

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.21	LTHW Strainers - High level	Basement - South Hall Boiler Room	Manufacturer: unknown. Model unknown. This equipment is approximately 10 years; old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine planned Maintenance. Recommend strainers are cleaned and cleared periodically.	3						High and Low Level. Second set of strainers showing sign of scaling.
1.22	LTHW Strainers - Low level	Basement - South Hall Boiler Room	Manufacturer: unknown. Model unknown. This equipment is approximately 20 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine planned Maintenance. Recommend strainers are cleaned and cleared periodically.	3						High and Low Level. Second set of strainers showing sign of scaling.
1.23	LTHW primary pump no.1	Basement - South Hall Boiler Room	Manufacturer: Pullen. Model C40LIC. This unit is approximately 25 years old and is considered to be in satisfactory condition commensurate with its age.	Unit observed in operation however the unit has reached the end of its economic life expectancy. Allowance to replace the unit due to physical obsolescence.	3	2,000.00					Unit operational
1.24	LTHW primary pump no.2	Basement - South Hall Boiler Room	Manufacturer: Pullen. Model C40LIC. This unit is approximately 25 years old and is considered to be in satisfactory condition commensurate with its age.	Unit observed in operation however the unit has reached the end of its economic life expectancy. Allowance to replace the unit due to physical obsolescence.	3	2,000.00					Unit operational
1.25	LPHW primary pump	Basement - South Hall Boiler Room	Manufacturer: Wilo Pumps. Model IPL65/130-0,55/4K13. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.26	Heating Pump Set -South Hall air handling unit	Basement - South Hall Boiler Room	Manufacturer: Wilo Pumps. Model W080070-2-F154. This unit is approximately 3 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	2						Twin pump set. Unit serves the South Hall
1.27	LTHW dosing pot (11 Litres)	Basement - South Hall Boiler Room	Manufacturer: Boss Ltd . Model unknown. This unit is approximately 2 years old and is considered to be in Good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	2						Capacity 11 Litres
1.28	LTHW twin pump set	Basement - South Hall Boiler Room	Manufacturer: Wilo Pumps. Model TOPSD65/10. This unit is approximately 5 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	2						
1.29	Break tank and pump set	Basement - South Hall Boiler Room	Manufacturer: Arrow Valves. Model unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the pump set due to physical obsolescence.	3			2,000.00			Complete with type AB air-gap (booster break)
1.30	Twin head pump set	North Hall - Case room	Manufacturer: Wilo Pumps. Model DOS50/100R. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence.	3				2,000.00		

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.31	Boiler room primary pumps - twin head	North Hall - Case room	Manufacturer: Wilo Pumps. Model TOP-SD65/10. This unit is approximately 1 year old and is considered to be in Good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
1.32	Boiler room supply air fan (high-level)	North Hall - Case room	Manufacturer: Unknown. Model unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to refurbish the unit due to physical obsolescence.	3				2,000.00		
1.33	Concealed heating only fan coil unit No 1	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	500.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.34	Concealed heating only fan coil unit No 2	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.35	Concealed heating only fan coil unit No 3	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.36	Concealed heating only fan coil unit No 4	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.37	Concealed heating only fan coil unit No 5	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.38	Concealed heating only fan coil unit No 6	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.39	Concealed heating only fan coil unit No 7	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.40	Concealed heating only fan coil unit No 8	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.41	Concealed heating only fan coil unit No 9	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.42	Concealed heating only fan coil unit No 10	North Hall Exhibition - Ground Floor	Manufacturer: unknown. Model unknown. This unit is approximately 30 years old and is considered to be in poor condition.	This unit is not considered to be an inefficient method for heating the exhibition area and providing humidification. Allowance to carry out minor remedial works.	4	800.00					Supplied by North Hall boiler room. Many of these fan coil units are redundant. Some incorporate small humidifiers which also appear to be redundant in part or do not work. Recommend a feasibility study is undertaken to establish a more energy efficient means of maintaining the required ambient conditions.
1.43	Constant Temperature twin head pump set	North Hall Office	Manufacturer: Wilo Pumps. Model DOS507140. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.44	Humidifier No 1	South Hall Boiler Room -External Basement light well	Manufacturer: Vapac. Model LE18P rated at 13.4kW. This unit is approximately 20 years old and is considered to be in very poor condition.	This unit is not working. Allowance to replace the unit due to physical obsolescence.	4	1,200.00					
1.45	Humidifier No 2	South Hall Boiler Room -External Basement light well	Manufacturer: Vapac. Model LE18P rated at 13.4kW. This unit is approximately 20 years old and is considered to be in very poor condition.	This unit is not working. Allowance to replace the unit due to physical obsolescence.	4	1,200.00					
1.46	Humidifier No 3	South Hall Boiler Room -External Basement light well	Manufacturer: Vapac. Model LE18P rated at 13.4kW. This unit is approximately 20 years old and is considered to be in very poor condition.	This unit is not working. Allowance to replace the unit due to physical obsolescence.	4	1,200.00					
1.47	Air Handling Unit	South Hall Boiler Room -External light well	Manufacturer: Trane. Model CCGA. This unit is approximately 11 years old and is considered to be in Fair condition commensurate with its age.	Allowance to refurbish the unit due to physical obsolescence.	4		4,000.00				
1.48	Twin head pump set - CT	West Hall	Manufacturer: Wilo Pumps. Model TOP-SD50/15. This unit is approximately 1 year old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine planned Preventative Maintenance.	2						
1.49	Pipework & Fittings - Low Temperature heating Hot Water (LTHW)	Throughout	Primary and secondary heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages. Generally the pipework is in satisfactory condition however various isolation and balancing valves were found to be seized or difficult to manipulate.	Allowance to replace various isolation and balancing valves on a phased basis.	4	8,000.00	5,000.00	2,000.00	2,000.00	2,000.00	
1.50	LTHW - Closed & open Water System	Throughout	Primary and secondary heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages.	Allowance for dynamic flush the systems including the addition of corrosion inhibitor	4	25,000.00					

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.51	Ventilation systems	Throughout	Various tempered air systems serving the North and South exhibition halls and the Aquarium. The internal surfaces were found to be heavily soiled and contaminated.	Allowance for Internal duct cleaning throughout.	4		15,000.00				
1.52	BMS Control	Throughout	Fully automated building management system provide to control the environmental conditions and time of operation of selected engineering plant and equipment within the Museum and associated out buildings.	Allowance to recommission the system including operation review and the recalibration/replacement of sensors, actuators and other failed devices identified.	4	12,000.00	12,000.00				
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Throughout	The electrical main and sub main switchgear is primarily manufactured by MEM and varies in age up to a maximum of 30 years. At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs. 2. Allowance to undertake prioritised remedial works.	3	15,000.00	4,000.00				
2.02	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to five years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	Approximately 320 fittings
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout	Including staff and public toilets	No work envisaged during the reporting period apart from routine maintenance.	3						
3.02	Hot water calorifier - Indirect, Floor mounted.	Basement - South Hall Boiler Room	Manufacturer: unknown. Model unknown. This unit is approximately 15 years old and is considered to be in poor condition.	Unit requires repair/replacement. Consider replacing the unit with a direct gas fired hot water heater.	4	15,000.00					Approx. 600 litre capacity. unit installation requires repair/replacement. We are informed that the unit only serves 3No outlets.
3.03	Cold water storage tank 1	Clock tower (Lower level)	Insulated Plastic tank approximately 0.75(L) x 0.6(W) x 0.6(H). No details as to what the tank serves. However it is considered to be the feed and expansion tank for either the North or South Hall boilers given the size and location. Evidence of sediment within the tank and corroded connections.	Allowance to clean the tank and identify which system it serves.	3	1,500.00					Consider modifications to provide a pressurised system.
3.04	Cold water storage tank 2	Clock tower (Lower level)	Uninsulated galvanised tank approximately 0.75(L) x 0.6(W) x 0.6(H). No details as to what the tank serves. However it is considered to be the feed and expansion tank for either the North or South Hall boilers given the size and location. Evidence of sediment within the tank and corroded connections.	Allowance to clean the tank and identify which system it serves.	3	1,500.00					Consider modifications to provide a pressurised system.
3.05	Cold water storage tank 3	North Hall	Insulated GRP tank approximately 3.0(L) x 2.0(W) x 1.5(H). This tank is approximately 5 years old and is considered to be in good condition commensurate with its age.	Allowance to clean and chlorinate the tank and associated down services.	3	2,500.00					
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Throughout	32 Zone fully addressable fire alarm system , with the master panel located within the ground floor security office of the main entrance (Bell tower) The system consists of 3no loops which serve the Cafeteria, extension and cue buildings Repeater panels are provided within the out buildings within the grounds to form a fully networked system. All field wiring consists of red fire rated cabling. The installation is approximately 16 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat and beam detectors on a phased basis.	3	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	
4.02	Lightning protection system	Roof level	Lightning protection system, manufactured by unknown. Model/type: Faraday cage system . This installation is approximately 25 years old and is considered to be in satisfactory condition commensurate with its age.	No remedial works envisaged during the reporting period apart from routine maintenance.	3						

Summary

SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Mechanical Services	£112,900.00	£41,000.00	£8,000.00	£26,000.00	£2,000.00
Electrical Services	£18,000.00	£7,000.00	£3,000.00	£3,000.00	£3,000.00
Public Health	£20,500.00	£0.00	£0.00	£0.00	£0.00
Fire Protection Services	£6.00	£3,500.00	£3,500.00	£3,500.00	£3,500.00
Total	£151,406.00	£51,500.00	£14,500.00	£32,500.00	£8,500.00

AQUARIUM

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Salt Water Mixing Tank	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	This is a sealed steel tank. No work envisaged during the reporting period.	3						
1.02	Salt Water Storage Tank No1	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						Capacity: 2.7m3
1.03	Salt Water Storage Tank No2	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						Capacity: 2.7m3
1.04	Mains Water Storage Tank	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						Break Tank. Volume 2.7m3
1.05	R/O Storage Tank	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.06	Wall Mounted Filtration System x 2	Basement - Aquarium Plant Room No 1	Manufacturer: RO-Man. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the enclosure and integral controls	3				2,000.00		Complete with in TDS meters x 2. Each operating at approximately 2.5 bar. Both units displaying some signs of surface rust.
1.07	Reef Refugium Tank	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.08	10B Coral Reef System J Ozone Control Panel - Wall Mounted	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model PH685. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integral controls	3			1,000.00			Complete with PH/ORP microprocessor controller
1.09	Coral Reef Pump No 1	Basement - Aquarium Plant Room No 1	Manufacturer: Aquamedic. Model Eco Runner 6000. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3			900.00			Rated at 70w. Unit observed leaking.
1.10	Coral Reef Pump No 2	Basement - Aquarium Plant Room No 1	Manufacturer: Aquamedic. Model Eco Runner 6000. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3			900.00			Rated at 70w
1.11	Coral Reef Pump No 3	Basement - Aquarium Plant Room No 1	Manufacturer: Aquamedic. Model Eco Runner 6000. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3			900.00			Rated at 70w
1.12	Reef Bio Tower	Basement - Aquarium Plant Room No 1	Manufacturer: Marine Tech Limited. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	No work envisaged during the reporting period apart from routine maintenance.	3						Capacity: 2.7m3
1.13	Coastal Bio Tower	Basement - Aquarium Plant Room No 1	Manufacturer: Marine Tech Limited. Model unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						Capacity: 2.7m3
1.14	Reef Sand Filter	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model LSR-16. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			2,000.00			
1.15	Reef Plate Exchange	Basement - Aquarium Plant Room No 1	Manufacturer: Swep Limited. Model GX-CPI 7. This unit is approximately 16 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		2,000.00				
1.16	Reef Bio Tower Pump	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model Hydro Storm 100/3PH. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3			900.00		900.00	Complete with Filter.
1.17	Coastal Sand Filter	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model LSR-16. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			2,000.00			
1.18	Coastal Pump	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model SUPATUF100. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3		1,200.00				Complete with filter
1.19	Coastal Plate Heat Exchanger	Basement - Aquarium Plant Room No 1	Manufacturer: Swep Limited. Model GX-CPI 7. This unit is approximately 16 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3					2,000.00	
1.20	8A Rockpool and 8B Coastal System G Ozone Control Panel	Basement - Aquarium Plant Room No 1	Manufacturer: ELSS Engineering Limited. Model PH685. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integral controls	3			1,000.00			Complete with PH/ORP microprocessor controller
1.21	Ozone Off Gas Distructor Pressure Vessel	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 16 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.22	Air Dryer	Basement - Aquarium Plant Room No 1	Manufacturer: Triogen Ozone Systems (x 2). Model TADBIA. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				1,200.00		Units displaying early stages of corrosion
1.23	Coastal Skimmer Pressure Vessel	Basement - Aquarium Plant Room No 1	Manufacturer: RK2 Systems. Model 150PE-PE. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						Recommend Insurance inspection undertaken in accordance with the pressure regulations 2000
1.24	Coastal Skimmer Venturi Pump	Basement - Aquarium Plant Room No 1	Manufacturer: Hydro Air. Model AV150-2BN-S. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3			900.00			Complete with in line filter. Unit displaying salt deposits)

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.25	Salt Water Mixing Pump No 1	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model Aquamite 50. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3		900.00				
1.26	Salt Water Mixing Pump No 2	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model Aquamite 50. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3		900.00				
1.27	R/O Storage Tank Pump	Basement - Aquarium Plant Room No 1	Manufacturer: Water Co Larcon. Model SUPATUF100. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3			900.00			
1.28	Fan Coil Unit 01	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 16 years old and is considered to be in poor condition and does not appear to be working.	Allowance to investigate its status	3	500.00					
1.29	Aquarium Chiller Unit No 1	Basement - Aquarium Plant Room No 1	Manufacturer: DD (DC Series Chiller). Model DC-220 . This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	This unit is in operation due to the under performance of the main chiller units and is therefore considered to be a temporary measure. Allowance to remove and dispose of the unit in favour of the replacement main chillers.	3	500.00					Refrigerant R134A
1.30	Aquarium Chiller Unit No 2	Basement - Aquarium Plant Room No 1	Manufacturer: DD (DC Series Chiller). Model DC-220 Refrigerant R134A. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	This unit is in operation due to the under performance of the main chiller units and is therefore considered to be a temporary measure. Allowance to remove and dispose of the unit in favour of the replacement main chillers.	3	500.00					Refrigerant R134A
1.31	Aquarium Chiller Unit No 3	Basement - Aquarium Plant Room No 1	Manufacturer: DD (DC Series Chiller). Model DC-4000 Refrigerant R407C. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	This unit is in operation due to the under performance of the main chiller units and is therefore considered to be a temporary measure. Allowance to remove and dispose of the unit in favour of the replacement main chillers.	3	500.00					Refrigerant R134A
1.32	UV Filtration Array - Coastal and Rockpool (12no UV lamps)	Basement - Aquarium Plant Room No 1	Manufacturer: Unknown. Model 010-55 P6T 660w Class 1 IP 64 rated. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the UV lamps	3	800.00	800.00	800.00	800.00	800.00	
1.33	MCCP for Coral Reef and Rockpool Pumps and all other associated pumps sets within the plant room	Basement - Aquarium Plant Room No 1	Manufacturer: unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the enclosure and integral controls	3		3,000.00				
1.34	Salt Water Tank 2 and 3B Temperature Panel	Aquarium Gallery - Plant Room No 2	Manufacturer: Unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.35	UV Light Array (2no Lamps)	Aquarium Gallery - Plant Room No 2	Manufacturer: Unknown. Model 7000-55P2 110w. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the UV lamps	3	500.00	500.00	500.00	500.00	500.00	
1.36	Portable Chiller Unit	Aquarium Gallery - Plant Room No 2	Manufacturer: Teco. Model Unknown. Refrigerant Unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	This unit is in operation due to the under performance of the main chiller units and is therefore considered to be a temporary measure.	3						
1.37	Skimmer Pump Single phase	Aquarium Gallery - Plant Room No 2	Manufacturer: Make 4. Model A40LX (Magnetic Dry Pump). This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				1,000.00		
1.38	Sump Pump	Aquarium Gallery - Plant Room No 2	Manufacturer: Make 4. Model A40LX (Magnetic Dry Pump). This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				1,000.00		
1.39	Control Panel - Salt Water Tank No 6	Aquarium Gallery - Plant Room No 4	Manufacturer: unknown. Model unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integrated controllers	3		1,500.00				Temperature at 18.7^{o}C, set point 25^{o}C.
1.40	Aquarium Chiller Unit No 4 - (Portable)	Aquarium Gallery - Plant Room No 4	Manufacturer: Teco. Model TR60. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			2,000.00			R410A Refrigerant
1.41	Plate Heat Exchanger	Aquarium Gallery - Plant Room No 4	Manufacturer: unknown. Model unknown. This unit is approximately 16 years old and is considered to be in poor condition.	Unit observed leaking. Allowance to replace the unit including pipework modifications to render the unit serviceable.	4	2,000.00					

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.42	Tank Filter Pump	Aquarium Gallery - Plant Room No 4	Manufacturer: unknown. Model unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to physical obsolescence.	4		1,000.00				
1.43	Temperature Control Panel - Tank 10A, 10B and 10C	Aquarium Gallery - Plant Room No 5	Manufacturer: unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integrated controllers	3		1,500.00				
1.44	Salt Water Tank 9 Temperature Control Panel	Aquarium Gallery - Plant Room No 6	Manufacturer: unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integrated controllers	3		1,500.00				
1.45	Skimmer Pump	Aquarium Gallery - Plant Room No 6	Manufacturer: unknown. Model unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to physical obsolescence.	4				1,000.00		
1.46	Sump Pump	Aquarium Gallery - Plant Room No 6	Manufacturer: unknown. Model unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to physical obsolescence.	4				1,000.00		
1.47	Tank 13 14A and 14B Tank Temperature Control Panel	Aquarium Gallery - Plant Room No 7	Manufacturer: Unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integrated controllers	3						
1.48	Extract Fan (Eye Level)	Aquarium Gallery - Plant Room No 7	Manufacturer: Unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance replace the unit due to physical obsolescence	3						
1.49	Waste Water Tank	Aquarium Gallery - Plant Room No 8	Manufacturer: Balmoral Tanks. Model unknown. This unit is approximately 6 years old and is considered to be in Good condition commensurate with its age.	Allowance to clean the tank	2	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	Sectional GRP tank complete with integrated lid.
1.50	Ozone Generator - Wall Mounted	Aquarium Gallery - Plant Room No 8	Manufacturer: Unknown. Model TOGC8X. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integral controls	3			1,200.00			Filters require cleaning.
1.51	Ozone Contact Chamber	Aquarium Gallery - Plant Room No 8	Manufacturer: Unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						Capacity - unknown
1.52	De-Gas Tower	Aquarium Gallery - Plant Room No 8	Manufacturer: Unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.53	Gas Sniffer Alarm System - Wall Mounted	Aquarium Gallery - Plant Room No 8	Manufacturer: Unknown. Model V0D015. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.54	Ozone Contact Chamber Pump	Aquarium Gallery - Plant Room No 8	Manufacturer: Water Co. Model SUPATUF100. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				900.00		
1.55	Rockpool Plant MCCP incorporating Rockpool Tank Temperature Gage (Digital)	Aquarium Gallery - Plant Room No 9	Manufacturer: Unknown. Model unknown. This unit is approximately 11 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integral controls	3			500.00			
1.56	Surge Pump	Aquarium Gallery - Plant Room No 9	Manufacturer: Water Co. Model AQUATP75. This unit is approximately 7 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3						
1.57	Skimmer Pump	Aquarium Gallery - Plant Room No 9	Manufacturer: Water Co. Model Hydro Storm +350/3PH. This unit is approximately 7 years old and is considered to be in satisfactory condition commensurate with its age. However due to its environment the unit displays significant evidence of salt efflorescence	Allowance to replace the unit due to life expired physical obsolescence.	3					900.00	
1.58	Air Cooled Packaged Chiller No 1	Aquarium - External Chiller Enclosure	Manufacturer: unknown. Model unknown. This unit is approximately 15 years old and is considered to be in poor condition.	At the time of inspection no maintenance records were available on site for review through discussions with the Aquarium curator the units appear to be under sized and prone to regular breakdowns which jeopardise the heath and welfare of the live aquatic specimens. Allowance to replace the unit with new including pipework modifications to suit.	4	10,000.00					Refrigerant R407C single compressor and pump operating at 4.5 bar pressure
1.59	Air Cooled Packaged Chiller No 2	Aquarium - External Chiller Enclosure	Manufacturer: unknown. Model unknown. This unit is approximately 15 years old and is considered to be in poor condition.	At the time of inspection no maintenance records were available on site for review through discussions with the Aquarium curator the units appear to be under sized and prone to regular breakdowns which jeopardise the heath and welfare of the live aquatic specimens. Allowance to replace the unit with new including pipework modifications to suit.	4	10,000.00					Unit maintained by Waterford Refrigeration and Air Conditioning Limited - 01923 227 726 (their job number is C5126/2) Refrigerant R407C single compressor and pump operating at 4.5 bar pressure
1.60	Pipework & Fittings - Low Temperature heating Hot Water (LTHW)	Throughout	Primary and secondary chilled water and heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages. Generally the pipework is in poor condition with various isolation and actuated valves found to be seized or difficult to manipulate.	Allowance to replace various isolation and actuated valves.	4	10,000.00					
1.61	LTHW - Closed & open Water System	Throughout	Primary and secondary chilled and heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages.	Allowance for dynamic flush the systems including the addition of corrosion inhibitor	4	5,000.00					

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Throughout	The electrical main and sub main switchgear is primarily manufactured by Sovereign and varies in age up to a maximum of 30 years. At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs. 2. Allowance to undertake prioritised remedial works.	3	4,000.00	1,200.00				
2.02	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to five years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	800.00	800.00	800.00	800.00	800.00	
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout	Pumped drainage to a holding tank.	No work envisaged during the reporting period apart from routine maintenance.	3						
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Throughout	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat detectors on a phased basis.	3		2,000.00				

	SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Summary	**Mechanical Services**	£41,300.00	£15,800.00	£17,400.00	£10,400.00	£6,100.00
	Electrical Services	£4,800.00	£2,000.00	£800.00	£800.00	£800.00
	Public Health	£0.00	£0.00	£0.00	£0.00	£0.00
	Fire Protection Services	£0.00	£2,000.00	£0.00	£0.00	£0.00
	Total	£46,100.00	£19,800.00	£18,200.00	£11,200.00	£6,900.00

2001 EXTENSION BUILDING

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Air cooled chiller No 1	Chiller Plant enclosure - External	Manufacturer: Carrier . Model 30RBS-120A0133-PE. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						Chiller incorporates R410A refrigerant (approx. 11.4kg).
1.02	Air cooled chiller No 2	Chiller Plant enclosure - External	Manufacturer: Carrier . Model 30RBS-120A0133-PE. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						Chiller incorporates R410A refrigerant (approx. 11.4kg).
1.03	Chilled water buffer vessel	Chiller Plant enclosure - External	Manufacturer: GMS Thermal Products Ltd. Model BU600. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						
1.04	Chilled water control panel	Chiller Plant enclosure - External	Manufacturer: N/A. Model N/A. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						Complete with pump and chiller user interface
1.05	Chilled water dosing pot	Chiller Plant enclosure - External	Manufacturer: Aldous & Stamp Ltd. Model Unknown. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						Capacity unknown
1.06	Chilled water dosing system glycol	Chiller Plant enclosure - External	Manufacturer: Iwaki. Model Unknown. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						Capacity unknown
1.07	Chilled water pressurisation unit	Chiller Plant enclosure - External	Manufacturer: Aquatech Ltd. Model 2000 plus controller. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	1						Complete with 200 litre expansion vessel. Vessels approximately 16 years old.
1.08	Chiller control panel and DBCE1	Chiller Plant enclosure - External	Manufacturer: N/A. Model N/A. This unit is approximately 15 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						Main isolation switch rated at 400amps
1.09	Chiller plant room buzz bar chamber	Chiller Plant enclosure - External	Manufacturer: N/A. Model N/A. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	1						
1.10	Electric heater - Wall mounted	Chiller Plant enclosure - External	Manufacturer: Dimplex. Model Cold Watcher 500. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2					1,000.00	
1.11	Primary chilled water service Pump - P1	Chiller Plant enclosure - External	Manufacturer: Grundfos . Model TPED 65-260/2AFA GQQE. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2		2,500.00				Inverter driven
1.12	Primary chilled water service Pump - P2	Chiller Plant enclosure - External	Manufacturer: Grundfos . Model TPED 65-260/2AFA GQQE. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2		2,500.00				Inverter driven
1.13	Secondary chilled water service Pump - P1	Chiller Plant enclosure - External	Manufacturer: Grundfos . Model TPE 50-190/2 A-F-ABAQE. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2			2,000.00			Inverter driven. Chilled water return label appears to be incorrect and should be validated
1.14	Secondary chilled water service Pump - P2	Chiller Plant enclosure - External	Manufacturer: Grundfos . Model TPE 50-190/2 A-F-ABAQE. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2			2,000.00			Inverter driven
1.15	Extract fan - F01 - Level 1 WC's	Dimmer room	Manufacturer: Nuaire . Model Unknown . This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						Duct mounted
1.16	Rain water submersible pump	Level 1	Manufacturer: Unknown. Model Unknown. This unit is approximately 15 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						Located in external chiller compound
1.17	Air handling unit - No 1 Temporary Gallery	Level 3 Plant Room	Manufacturer: Woods. Model Airpac 6. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2				3,500.00		Serves level 1 gallery
1.18	Air handling unit - No 2 Music Gallery	Level 3 Plant Room	Manufacturer: Woods. Model Airpac 6. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2				3,500.00		Serves level 1 gallery
1.19	Air handling unit - No 3 - Cafeteria supply	Level 3 Plant Room	Manufacturer: Roof Units Ltd. Model Viking Series 90 Code D5-E. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2			800.00			Serves cafeteria
1.20	Air handling unit - No 4 - Entrance lobby	Level 3 Plant Room	Manufacturer: Roof Units Ltd. Model Viking Series 90 Code D5-E. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2			800.00			Serves level 2 entrance lobby
1.21	Air handling unit - No 5 - Kitchen	Level 3 Plant Room	Manufacturer: Roof Units Ltd. Model Viking Series 90 Code D5-E. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2			800.00			

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Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.22	Air handling unit - No 6 - Shop	Level 3 Plant Room	Manufacturer: Roof Units Ltd. Model Viking Series 90 Code D5-E. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2				800.00		Serves level 2 shops
1.23	Air handling unit - No 7 Education WC's supply	Level 3 Plant Room	Manufacturer: Roof Units Ltd. Model Viking Series 90 Code D5-E. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake minor refurbishment works.	2				800.00		Serves level 2 Education toilets
1.24	Control Panel - MCCP-CP08	Level 3 Plant Room	Manufacturer: N/A. Model N/A. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						Complete with IQ View user interface
1.25	Electric Duct air heaters - EH1	Level 3 Plant Room	Manufacturer: Eltron Chromalox . Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2						
1.26	Electric Duct air heaters - EH2	Level 3 Plant Room	Manufacturer: Eltron Chromalox . Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2					1,200.00	
1.27	Electric Duct air heaters - EH3	Level 3 Plant Room	Manufacturer: Eltron Chromalox . Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2					1,200.00	
1.28	Electric Duct air heaters - EH4	Level 3 Plant Room	Manufacturer: Eltron Chromalox . Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2					1,200.00	
1.29	Extract fan - F02 - Level 2 Education WC's	Level 3 Plant Room	Manufacturer: Nu Aire. Model QTIC3S. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2		1,800.00				Serves level 2 Education toilets
1.30	Extract fan - F04 - Level 2 Cloakroom	Level 3 Plant Room	Manufacturer: Roof Units . Model SLP100. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2			1,800.00			
1.31	Extract fan - F05 - Kitchen Hood	Level 3 Plant Room	Manufacturer: Matthew Yates . Model 4P/8P. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2			1,800.00			19" Bifurcated fan. Serves level 2 kitchen hood
1.32	Extract fan - F06 - Dishwasher Extract	Level 3 Plant Room	Manufacturer: Matthew Yates . Model 4P/8P. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2				1,800.00		15" Bifurcated fan. Serves level 2 kitchen dishwasher
1.33	Extract fan - F07 - Office supply	Level 3 Plant Room	Manufacturer: Nu Aire. Model QSP250. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2				1,800.00		
1.34	Extract fan - F08 - Office Extract	Level 3 Plant Room	Manufacturer: Nu Aire. Model WSP200. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2					1,800.00	Serves level 3 offices
1.35	Extract fan - F11 - Temporary Gallery Store Extract	Level 3 Plant Room	Manufacturer: Nu Aire. Model QSP250. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2			1,800.00			
1.36	Extract fan - F12 Plant room Extract	Level 3 Plant Room	Manufacturer: Vent Axia. Model Minivent SK. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to undertake fan refurbishment works.	2					1,800.00	
1.37	Humidifier No 1	Level 3 Plant Room	Manufacturer: Eaton Williams Air Conditioning Ltd . Model VAPAC PE18. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2			1,200.00			Serves AHU No 1
1.38	Humidifier No 2	Level 3 Plant Room	Manufacturer: Eaton Williams Air Conditioning Ltd . Model VAPAC PE18. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2			1,200.00			Serves AHU No 1
1.39	Humidifier No 3 - Orientation space dimmer rack 1.3	Level 3 Plant Room	Manufacturer: Eaton Williams Air Conditioning Ltd . Model VAPAC PE5. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2			1,200.00			
1.40	Humidifier No 4	Level 3 Plant Room	Manufacturer: Eaton Williams Air Conditioning Ltd . Model 50HX RDU 220/240V WL/PEP. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence	2			1,200.00			
1.41	Water softener set	Level 3 Plant Room	Manufacturer: Lubron Water Technologies Ltd. Model Bimatic B45 DV. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						
1.42	Extract fan - F10 -- Lift Motor room Extract	Lift Motor room	Manufacturer: Vent Axia. Model S7/PL. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						
2.00	**ELECTRICAL**										

2001 EXTENSION BUILDING

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
2.01	Electrical distribution board - DB 2.3	Café WC Cloakroom	Manufacturer: MEM (500v). Model 8 way TPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.02	Electrical distribution board - DB CE.1	Chiller Plant enclosure - External	Manufacturer: MEM (500v). Model Mem Shield 2. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.03	Electrical distribution board - DB 3.1	Level 3	Manufacturer: MEM (500v). Model 6 way TPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.04	Electrical distribution board - DB 1.3	Mains room	Manufacturer: MEM (500v). Model 16 way TPN . This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.05	Electrical distribution board - DB 1.4	Mains room	Manufacturer: MEM (500v). Model 10 way SPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.06	Electrical distribution board - Orientation space dimmer rack 1.3	Mains room	Manufacturer: MEM (500v). Model 4 way SPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.07	Electrical distribution board - DB 2.4	Shop Store cupboard	Manufacturer: MEM (500v). Model 13 way SPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.08	Electrical distribution board - DB 1.1	Temporary Gallery Store	Manufacturer: MEM (500v). Model 8 way TPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.09	Electrical distribution board - DB 2.1	Goods Store	Manufacturer: MEM (500v). Model 16 way SPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.10	Electrical distribution board - DB 2.2	Kitchen servery	Manufacturer: MEM (500v). Model 8 way TPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.11	Electrical distribution board - Music Gallery dimmer rack 1.2	Main Switch room	Manufacturer: MEM (500v). Model 12 way TPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.12	Electrical distribution board - DB 1.2	Level 1 - Temporary Gallery Store	Manufacturer: MEM (500v). Model 10 way SPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.13	Electrical distribution board - Gallery dimmer rack 1.1	Level 1 - Temporary Gallery Store	Manufacturer: MEM (500v). Model 25 way SPN. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to undertake a 5 year condition report including emergency repairs.	2	350.00					
2.14	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to five years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	2	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout	Pumped drainage to a holding tank.	No work envisaged during the reporting period apart from routine maintenance.	2						
3.02	Hot water cylinder	Level 3	Manufacturer: Heatrae Sadia. Model Megaflow. This unit is approximately 15 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						Reference HWCYL2 Serves kitchen and toilets
3.03	Hot water cylinder	Level 3	Manufacturer: Heatrae Sadia. Model Megaflow. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine Planned Preventative Maintenance	2						Reference HYCYL1; Serves Education toilets.
3.04	Cold water storage tank	Level 3	Manufacturer: Unknown. Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to clean and chlorinate the system	2	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	Serves all services within the cafeteria, education centre and gallery square toilets. GRP Construction.
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Throughout	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat detectors on a phased basis.	3	4,000.00	4,000.00				
4.02	Lightning protection system	Roof level	Lightning protection system, manufactured by unknown. Model/type: Faraday cage system . This installation is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	No remedial works envisaged during the reporting period apart from routine maintenance.	3						

Summary

SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Mechanical Services	£0.00	£6,800.00	£16,600.00	£12,200.00	£8,200.00
Electrical Services	£6,550.00	£2,000.00	£2,000.00	£2,000.00	£2,000.00
Public Health	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00

2001 EXTENSION BUILDING

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
		Fire Protection Services				£4,000.00	£4,000.00	£0.00	£0.00	£0.00	
		Total				£13,050.00	£15,300.00	£21,100.00	£16,700.00	£12,700.00	

CUE BUILDING

Work Item Ref.	Main Element	Location		Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Gas Fired Boiler Condensing	Cue Building	Manufactured by Keston Model/type: C40. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age	Allowance to replace the unit due to physical obsolescence.	3		8,000.00				
1.02	Heating Pump	Cue Building	Manufactured by Grundfos Model/type: unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age	Allowance to replace the unit due to physical obsolescence.	3		1,000.00				
1.03	Radiators	Cue Building	Manufactured by unknown Model/type: unknown. This unit is approximately 20 years old and is considered to be in satisfactory condition commensurate with its age	Allowance to replace the TRV's due to physical obsolescence.	3		1,000.00				Complete with TRV's
1.04	Toilet Ventilation	Cue Building	Manufactured by Vent Axia Model/type: VA Minivents. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age		3			100.00			
1.05	Underfloor heating panels	Cue Building	Manufactured by unknown Model/type: unknown. This unit is approximately 20 years old and is considered to be in satisfactory condition commensurate with its age	No work envisaged during the reporting period apart from routine maintenance.	3						System serves 4 zones
1.06	Finned tube perimeter heating	Cue Building	Manufactured by unknown Model/type: unknown. This unit is approximately 20 years old and is considered to be in satisfactory condition commensurate with its age	No work envisaged during the reporting period apart from routine maintenance.	3						
1.07	Kitchen ventilation	Cue Building	Manufactured by Greenwood Model/type: Air vac. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age	Allowance to replace the unit due to physical obsolescence.	3		100.00				
1.08	Extract fan - F13 Cue Building WC Extract	Cue Building	Manufacturer: Vent Axia. Model Minivent SK. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence.	3			100.00			Complete with timer
1.09	Extract fan - F03 - Café & Kitchen WC's	Cue Building	Manufacturer: Nu Aire. Model QTIC3S. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to physical obsolescence.	3					1,500.00	

CUE BUILDING

Work Item Ref.	Main Element	Location		Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Cue Building	The electrical main and sub main switchgear is approximately 20 years old and is considered to be in satisfactory condition commensurate with its age, however at the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs.	3	8,500.00					
2.02	Emergency Lighting	Cue Building	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age up to a maximum of 10 years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
3.00	**PUBLIC HEALTH**										
3.01	HWS cylinder	Cue Building	Manufactured by OSO AS solarcyl Model/type: unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age	Allowance to replace the unit due to physical obsolescence.	3				8,500.00		210 litre capacity
3.02	Soil, Waste and Surface Water Drainage	Throughout		No work envisaged during the reporting period apart from routine maintenance.	3						
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Cue Building	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat detectors	3		2,500.00				
4.02	Lightning protection system	Roof level	Lightning protection system, manufactured by unknown. Model/type: Faraday cage system . This installation is approximately 20 years old and is considered to be in satisfactory condition commensurate with its age.	No remedial works envisaged during the reporting period apart from routine maintenance.	3						

	SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Summary	**Mechanical Services**	£0.00	£10,100.00	£200.00	£0.00	£1,500.00
	Electrical Services	£9,500.00	£1,000.00	£1,000.00	£1,000.00	£1,000.00
	Public Health	£0.00	£0.00	£0.00	£8,500.00	£0.00
	Fire Protection Services	£0.00	£2,500.00	£0.00	£0.00	£0.00
	Total	£9,500.00	£13,600.00	£1,200.00	£9,500.00	£2,500.00

MICHAEL HORNIMAN BUILDING

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Extract fan	Ground floor - Chemical Store	Manufacturer: Axair Ltd . Model Unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3					2,000.00	Located at low-level within the store
1.02	Electric trace heating	Ground floor - Kitchen	Manufacturer: Delta "T" Trace heating Ltd. Model Raychem HWAT-M . This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			3,000.00			
1.03	Gas fired Boiler - Wall mounted	Ground floor - Kitchen	Manufacturer: Keston Boilers Ltd . Model 170. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				8,000.00		
1.04	Heating expansion vessel	Ground floor - Kitchen	Manufacturer: Pullen. Model HE. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				900.00		Capacity 18 litres
1.05	Primary heating pump	Ground floor - Kitchen	Manufacturer: Grundfos Pumps Ltd . Model UPS25-80 180. This unit is approximately 3 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				1,000.00		
1.06	Toilet extract fan	Ground floor - WC	Manufacturer: Xpelair. Model . This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				200.00		6' fan. Located in ground floor WC ceiling mounted
1.07	Industrial ventilation dust and fume extract unit	Ground floor - workshop	Manufacturer: Unknown. Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		3,500.00				
1.08	Conservation laboratory air handling unit	Level 1 - Ceiling void	Manufacturer: Viking Roof Units Ltd. Model . This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to refurbish the unit.	3			2,000.00			Located in roof void. Series 90; (incorporating heater battery; complete with satchwell 3-port valve activator) Access to this area is extremely restricted. Lone working not recommended)
1.09	Fume cupboard extract fan no.1	Level 1 - Ceiling void	Manufacturer: Central Fans Colasit Ltd. Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		3,000.00				
1.10	Fume cupboard extract fan no.2	Level 1 - Ceiling void	Manufacturer: Central Fans Colasit Ltd. Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		3,000.00				
1.11	Laboratory point of use fume extract Hood No 1 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.12	Laboratory point of use fume extract Hood No 2 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.13	Laboratory point of use fume extract Hood No 3 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.14	Laboratory point of use fume extract Hood No 4 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.15	Laboratory point of use fume extract Hood No 5 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.16	Laboratory point of use fume extract Hood No 6 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.17	Laboratory point of use fume extract Hood No 7 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.18	Laboratory point of use fume extract Hood No 8 - (handheld)	Level 1 - Laboratory	Manufacturer: Plymovent Ltd . Model 3000. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.19	Mobile humidifier unit No 1	Level 1 - Laboratory	Manufacturer: Axair Ltd . Model PH26 Defensor. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3	1,800.00					
1.20	Mobile humidifier unit No 2	Level 1 - Laboratory	Manufacturer: Axair Ltd . Model PH26 Defensor. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3	1,800.00					
1.21	Mobile humidifier unit No 3	Level 1 - Laboratory	Manufacturer: Axair Ltd . Model PH26 Defensor. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		1,800.00				
1.22	LTHW Radiators	Throughout	Manufacturer: . Model . These units are approximately 10 years old and are considered to be in satisfactory condition commensurate with their age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.23	LTHW - Closed Water System	Throughout	Primary and secondary heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages.	Allowance for dynamic flush the systems including the addition of corrosion inhibitor	4	6,000.00					
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Throughout	The electrical main and sub main switchgear is primarily manufactured by Sovereign and varies in age up to a maximum of 10 years. At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs. 2. Allowance to undertake prioritised remedial works.	3	6,500.00	1,000.00				

MICHAEL HORNIMAN BUILDING

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
2.02	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to five years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout	Pumped drainage to a holding tank.	No work envisaged during the reporting period apart from routine maintenance.	3						
3.02	Hot water cylinder	Ground floor - Kitchen	Manufacturer: Heatrae Sadia. Model Megaflow. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				5,000.00		145 litre Capacity.
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Throughout	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to replace life expired main panel & smoke/heat detectors.	3	5,000.00	2,500.00				

	SERVICES	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)	Year 5 (2020)
Summary	**Mechanical Services**	£9,600.00	£11,300.00	£5,000.00	£10,100.00	£2,000.00
	Electrical Services	£7,500.00	£2,000.00	£1,000.00	£1,000.00	£1,000.00
	Public Health	£0.00	£0.00	£0.00	£5,000.00	£0.00
	Fire Protection Services	£5,000.00	£2,500.00	£0.00	£0.00	£0.00
	Total	£22,100.00	£15,800.00	£6,000.00	£16,100.00	£3,000.00

BOTHY BUILDING

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Wall mounted gas fired boiler	Ground floor- Store	Manufacturer: Keston Boilers Ltd. Model C55. This unit is approximately 8 years old and is considered to be in Satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3					2,500.00	Boiler is showing a fault code of E05 at time of inspection
1.02	Domestic hot water circulation pump	Ground floor- Store	Manufacturer: Grundfos. Model UPS15-50 8 130 (Bronze). This unit is approximately 8 years old and is considered to be in Satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		800.00				
1.03	LTHW - Closed Water System	Throughout	Primary and secondary heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages.	Allowance for dynamic flush the system including the addition of corrosion inhibitor	3	1,500.00					
1.04	LTHW Radiators	Throughout	Manufacturer: unknown. Model Unknown. These units are approximately 10 years old and are considered to be in satisfactory condition commensurate with their age.	No work envisaged during the reporting period apart from routine maintenance	3						
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Throughout	The electrical main and sub main switchgear is primarily manufactured by MEM and varies in age up to a maximum of 30 years. At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs.	3	3,000.00					
2.02	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to five years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout	Including staff and public toilets	No work envisaged during the reporting period apart from routine maintenance.	3						
3.02	Cold water storage tank 1	Clock tower (Lower level)	Insulated storage tank approximately 2.00(L) x 0.5(W) x 0.5(H).	Allowance to clean and chlorinate the tank.	3	1,500.00					
3.03	Domestic hot water storage cylinder (indirect)	Ground floor- Store	Manufacturer: Heatrae Sadia. Model Megaflow. This unit is approximately 8 years old and is considered to be in Satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3					4,000.00	No flow temperature gauge present on unit
3.04	Hot water storage vessel	1st floor	Manufacturer: Unknown. Model Unknown. This unit is approximately 10 years old and is considered to be in Satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3					200.00	Unit does not appear to be in use.
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Throughout	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	1. Allowance to replace life expired main panel & smoke/heat detectors.	3	2,500.00					

Summary

SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Mechanical Services	£1,500.00	£800.00	£0.00	£0.00	£2,500.00
Electrical Services	£4,000.00	£1,000.00	£1,000.00	£1,000.00	£1,000.00
Public Health	£1,500.00	£0.00	£0.00	£0.00	£4,200.00
Fire Protection Services	£2,500.00	£0.00	£0.00	£0.00	£0.00
Total	£9,500.00	£1,800.00	£1,000.00	£1,000.00	£7,700.00

THE PAVILLION

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Ground source heat pump	Pavilion Plant room	Manufacturer: Viessmann. Model Vitocell 300. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	At the time of inspection we were informed by the Estate manager that the unit has not operated since its installation. Allowance to recommission the system, including minor repairs.	2	5,000.00					
1.02	Heat pump set	Pavilion Plant room	Manufacturer: Viessmann. Model Unknown. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						Unit incorporates 2 no. Grundfos X circulation pumps, differential pressure switch and valve actuators
1.03	Heat pump buffer vessel	Pavilion Plant room	Manufacturer: Viessmann. Model Unknown. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
1.04	Chemical dosing pot	Pavilion Plant room	Manufacturer: Boss. Model N/A. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						Capacity 3.5 litres
1.05	Pavilion air handling unit	Pavilion Plant room	Manufacturer: Nu Aire. Model S4-XBVRL2QA8716. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
1.06	Air handling unit controller	Pavilion Plant room	Manufacturer: Nu Aire. Model Ecosmart . This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
1.07	Wall extract fan	Ground Floor - furniture store	Manufacturer: Nu Aire. Model XS6 MFC WA. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						c/w wall controller
1.08	Wall extract fan	Ground Floor - furniture store	Manufacturer: Nu Aire. Model XS6 MFC WA. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						c/w wall controller
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Throughout	The electrical main and sub main switchgear is primarily manufactured by MEM and varies in age up to a maximum of 15 years. At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs.	3	8,000.00					
2.02	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to 10 years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout	Including staff and public toilets	No work envisaged during the reporting period apart from routine maintenance.	3						
3.02	Hot water calorifier	Pavilion Plant room	Manufacturer: Viessmann. Model Vitocell 300. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
3.03	Drinking water storage tank	Pavilion Plant room	Manufacturer: Unknown. Model N/A. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	Allowance to clean and chlorinate the tank	2	900.00	900.00	900.00	900.00	900.00	Capacity unknown
3.04	Drinking water boost pump set	Pavilion Plant room	Manufacturer: Wilo Pumps . Model MHI203-1/E/1-230-50-2. This unit is approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
3.05	Thermostatic mixing valves	Toilets	Manufacturer: Boss. Model: Bossmix 86340013. These valves are approximately 6 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Throughout	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat detectors on a phased basis.	3				2,000.00		

THE PAVILLION

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments

Summary

SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Mechanical Services	£5,000.00	£0.00	£0.00	£0.00	£0.00
Electrical Services	£9,000.00	£1,000.00	£1,000.00	£1,000.00	£1,000.00
Public Health	£900.00	£900.00	£900.00	£900.00	£900.00
Fire Protection Services	£0.00	£0.00	£0.00	£2,000.00	£0.00
Total	£14,900.00	£1,900.00	£1,900.00	£3,900.00	£1,900.00

MISCELLANEOUS

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Radiant Gas Heaters	Conservatory	At the time of inspection access to this area was not gained.	Allowance for minor remedial works.	Unknown	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
1.02	Gas Fired Boiler	Nursery Cottage	Manufacturer: Ideal . Model: Independent C30. This unit is approximately 4 years old and is considered to be in Satisfactory Condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.05	Radiators	Nursery Cottage	Manufacturer: Steel Panel. Model: . These radiators are approximately 20 years old and are considered to be in Satisfactory Condition commensurate with their age.	Allowance to replace TRV's due to physical obsolescence.	3					500.00	
1.06	Controls	Nursery Cottage	Stand alone domestic type control unit The unit is approximately 4 years old and is considered to be in Satisfactory Condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
1.07	Gas fired boiler	Greenhouses	Manufacturer: Unknown . Model: Unknown . This unit is approximately 4 years old and is considered to be in Satisfactory Condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance.	3						
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Conservatory, Nursery Cottage & Greenhouses	At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs.	3	3,500.00					
2.02	Emergency Lighting	Conservatory, Nursery Cottage & Greenhouses	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to 5 years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	3	250.00	250.00	250.00	250.00	250.00	
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Conservatory, Nursery Cottage & Greenhouses		No work envisaged during the reporting period apart from routine maintenance.	3						
4.00	**FIRE PROTECTION**										
4.01	Fire Alarm System	Conservatory, Nursery Cottage & Greenhouses	L2 automatic detection Installation which interfaces with the main overall system. All field wiring consists of red fire rated cabling. The installation is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat detectors on a phased basis.	3	300.00	300.00	300.00	300.00	300.00	

Summary

SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Mechanical Services	£1,000.00	£1,000.00	£1,000.00	£1,000.00	£1,500.00
Electrical Services	£3,750.00	£250.00	£250.00	£250.00	£250.00
Public Health	£0.00	£0.00	£0.00	£0.00	£0.00
Fire Protection Services	£300.00	£300.00	£300.00	£300.00	£300.00
Total	£5,050.00	£1,550.00	£1,550.00	£1,550.00	£2,050.00

STUDY COLLECTION CENTRE

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
Condition Key : 1 = As New 2 = Good Condition 3 = Moderate Condition 4 = Poor Condition 5 = Hazardous											
1.00	**MECHANICAL**										
1.01	Boiler Plant Control Panel	Basement	Manufacturer: N/A. Model N/A. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the integral controls unit due to life expired physical & technical obsolescence.	3				2,000.00		Complete with Alerton Controller
1.02	Dosing Pot - LTHW	Basement	Manufacturer: Unknown. Model Unknown. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.03	Gas Fired Boiler No1 - Wall Mounted	Basement	Manufacturer: Keston. Model C90 rating unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				6,500.00		Boilers prone to periodic breakdown, currently maintained by site
1.04	Gas Fired Boiler No2 - Wall Mounted	Basement	Manufacturer: Keston. Model C90 rating unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				6,500.00		Boilers prone to periodic breakdown, currently maintained by site
1.05	Primary Heating Twin Pump Set	Basement	Manufacturer: Wilo. Model TOP-SD65/10. This unit is approximately 6 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the mechanical seals	3		500.00				
1.06	Refrigerated Storage Container No 1	External	Manufacturer: Unknown. Model Unknown. This unit is approximately 21 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to refurbish the unit including regassing of refrigerant	3		15,000.00				Unit maintained periodically by the incumbent refrigeration contractor
1.07	Refrigerated Storage Container No 2	External	Manufacturer: Unknown. Model Unknown. This unit is approximately 21 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to refurbish the unit including regassing of refrigerant	3			15,000.00			Unit maintained periodically by the incumbent refrigeration contractor
1.08	Refrigerated Storage Container No 3	External	Manufacturer: Unknown. Model Unknown. This unit is approximately 15 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to refurbish the unit including regassing of refrigerant	3				15,000.00		Unit maintained periodically by the incumbent refrigeration contractor
1.09	Humidifier Unit	Level 1. Main Hall	Manufacturer: Unknown. Model Unknown. This unit is approximately 2 years old and is considered to be in satisfactory condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	3						
1.10	Circulation Fan - Ceiling Mounted, c/w wall mounted speed controller	Level 1. Room 1	Manufacturer: Unknown. Model Unknown. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		100.00				
1.11	Humidifier - Wall Mounted	Level 1. Room 1	Manufacturer: Defensor. Model Mark 4. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		1,500.00				Unit in operation at the time of inspection
1.12	Circulation Fan - Ceiling Mounted, c/w wall mounted speed controller	Level 1. Room 12	Manufacturer: Unknown. Model Unknown. This unit is approximately old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		100.00				
1.13	Circulation Fan - Ceiling Mounted, c/w wall mounted speed controller	Level 1. Room 13	Manufacturer: Unknown. Model Unknown. This unit is approximately old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		100.00				
1.14	Walk-In Deep Freezer	Level 1. Room 14	Manufacturer: Unknown. Model Unknown. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to refurbish the unit including regassing of refrigerant	3					8,000.00	Complete with wall mounted controller
1.15	Humidifier	Level 2. Main Hall	Manufacturer: Unknown. Model Unknown. This unit is approximately 5 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	2		1,500.00				
1.16	Extract Fan No1 - Wall Mounted	Level 2. Mezzaine Office	Manufacturer: Ventaxia. Model Unknown. This unit is approximately 5 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4			200.00			
1.17	Extract Fan No1 - Wall Mounted	Level 2. Mezzaine Office	Manufacturer: Ventaxia. Model Unknown. This unit is approximately 6years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4			200.00			
1.18	Portable AC Unit	Level 2. Mezzaine Office	Manufacturer: Homebase. Model 641638. This unit is approximately 4 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				1,000.00		

STUDY COLLECTION CENTRE

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.19	Air Conditioning Unit - Split	Level 2. Office	Manufacturer: Fujitsu. Model AOYG14LMCA (R410A). This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						
1.20	Extract Fan - Wall Mounted	Level 2. Room 21	Manufacturer: Unknown. Model Unknown. This unit is approximately 8 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			200.00			
1.21	Circulation Fan - Ceiling Mounted, c/w wall mounted speed controller	Level 2. Room 22	Manufacturer: Xpelair. Model Whisper. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		100.00				
1.22	Circulation Fan No 1 - Wall Mounted	Level 2. Room 23	Manufacturer: Draper. Model Unknown. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		100.00				
1.23	Circulation Fan No 2 - Wall Mounted	Level 2. Room 23	Manufacturer: Draper. Model Unknown. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			100.00			
1.24	Circulation Fan No 3 - Wall Mounted	Level 2. Room 23	Manufacturer: Draper. Model Unknown. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			100.00			
1.25	Extract Fan - Wall mounted	Level 2. Study Room	Manufacturer: Ventaxia. Model Unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4			200.00			
1.26	Dehumidifier Unit	Level 3.	Manufacturer: Defensor (no3). Model Devapor H. This unit is approximately 15 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4	2,000.00					Unit is no longer in operation or functional
1.27	Water Treatment Packaged Plant - Reverse Osmosis	Level 3.	Manufacturer: Lubron Water Technologies. Model Compact. This unit is approximately 4 years old and is considered to be in good condition commensurate with its age.	Allowance to undertake minor remedial works due to physical obsolescence.	2			1,200.00		2,000.00	
1.28	Humidifier - Wall Mounted	Level 3. Main Hall	Manufacturer: Unknown. Model Unknown. This unit is approximately 4 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	2					2,000.00	
1.29	Circulation Fan - Ceiling Mounted	Level 3. Room 31	Manufacturer: Unknown. Model Unknown. This unit is approximately old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			100.00			
1.30	Circulation Fan - Ceiling Mounted	Level 3. Room 32	Manufacturer: Xpelair. Model: Whisper. This unit is approximately old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			100.00			
1.31	Dehumidifier - Wall Mounted	Level 3. Room 32	Manufacturer: Defensor. Model Devapor H. This unit is approximately 15 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4	2,000.00					
1.32	Circulation Fan - Wall Mounted	Level 3. Room 33	Manufacturer: Draper. Model Unknown. This unit is approximately 5 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3			100.00			
1.33	LTHW F&E Tank - Wall Mounted (Galvanised)	Level 3. Room 35	Manufacturer: Unknown. Model Unknown. This unit is approximately 30 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				800.00		
1.34	Portable AC Unit - Wall Mounted	Level 3. Room 35	Manufacturer: Unknown. Model Unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4	1,000.00					This unit is not manufactured for wall mounting purposes
1.35	Extract Fan - Roof Mounted	Loft	Manufacturer: Radialax Limited. Model DRAE 251-4 L. This unit is approximately 20 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4						
1.36	Extract Fan No 1 - 6 inch (Unducted)	Loft	Manufacturer: Unknown. Model Unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4	200.00					

Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
1.37	Extract Fan No 2 - 6 inch (Unducted)	Loft	Manufacturer: Unknown. Model Unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4	200.00					
1.38	Extract Fan No 3 - 6 inch (Unducted)	Loft	Manufacturer: Unknown. Model Unknown. This unit is approximately 10 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4	200.00					
1.39	Extract Fan - Window Mounted 4 inch	Mezzaine Accessible Toilet	Manufacturer: Ventaxia. Model Unknown. This unit is approximately 4 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				100.00		Unit would benefit from a clean.
1.40	Extract Fan - Wall Mounted	Mezzaine Toilet Shower room	Manufacturer: Ventaxia (Shower Room). Model Unknown. This unit is approximately 4 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				100.00		Unit would benefit from a clean.
1.41	Extract Fan - Window Mounted 4 inch	Mezzaine Toilet Shower room	Manufacturer: Xpelair. Model Unknown. This unit is approximately 4 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3				100.00		Units would benefit from a clean
1.42	Extract Fan - Window Mounted	Mezzaine Floor Staff Room Office	Manufacturer: Ventaxia. Model Unknown. This unit is approximately 15 years old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4				100.00		
1.43	Portable Air Conditioning Unit	Mezzaine Floor Staff Room Office	Manufacturer: Homebase. Model 641638. This unit is approximately 3 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	3		1,000.00				
1.44	Window Fan - Wall Mounted	Mezzaine Floor Staff Room Office	Manufacturer: Ventaxia. Model Unknown. This unit is approximately 4 old and is considered to be in poor condition.	Allowance to replace the unit due to life expired physical obsolescence.	4			200.00			
1.45	LTHW - Closed & open Water System	Throughout	Primary and secondary heating circuits throughout. Pipework constructed from a combination of steel, copper and in part "barrel" pipework and represents various ages.	Allowance for dynamic flush the systems including the addition of corrosion inhibitor	4	6,000.00					
2.00	**ELECTRICAL**										
2.01	Main Switchgear, Sub-Switchgear and Distribution Boards	Throughout	The electrical main and sub main switchgear is primarily manufactured by Eton MEM Sovereign and is between 4 -6 years old. At the time of inspection there was no evidence that an electrical condition report had been undertaken in accordance with BS 7671 (IET Wiring regulations)	1. Allowance to undertake a 5 year condition report including emergency repairs. 2. Allowance to undertake prioritised remedial works.	2	7,500.00					
2.02	Emergency Lighting	Throughout	Installation appears to be a combination of maintained and non maintained (Normally off) florescent luminaires. The luminaires vary in age from approximately 2 to 10 years.	Functional tests were being undertaken at the time of inspection. Allowance for remedial works following annual 3 hour duration test, including battery and lamp replacements.	2	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	
2.03	CCTV System throughout	Loft	Manufacturer: various. Model Various. This system is approximately 2 years old and is considered to be in good condition commensurate with its age.	No work envisaged during the reporting period apart from routine maintenance	2						System consists of 9 cameras of which 2 are fixed, the remainder being of colour PTZ type
3.00	**PUBLIC HEALTH**										
3.01	Soil, Waste and Surface Water Drainage	Throughout		Allowance to undertake CCTV survey and remedial repairs	4		12,000.00				Drainage known to have collapsed around the main entrance areas of the car park
3.02	Point of Use Hot Water Boiler - Wall Mounted	Mezzaine Floor Staff Room Office	Manufacturer: Calomax. Model Clipper 5l . This unit is approximately 6 old and is considered to be in satisfactory condition commensurate with its age.		3						Tap broken and requires replacement
3.03	Electric Shower	Mezzaine Toilet Shower room	Manufacturer: Unknown. Model MX Insperation LXI. This unit is approximately 2 years old and is considered to be in good condition commensurate with its age.	Allowance to replace the unit due to life expired physical obsolescence.	2			500.00			
3.04	Hot Water Storage Heater - Wall Mounted	Mezzaine Toilet Shower room	Manufacturer: Heatrae Sadia. Model FBM Type MM3 Capacity 125l Rated at 3kW. This unit is approximately 10 years old and is considered to be in satisfactory condition commensurate with its age.		3			3,000.00			
4.00	**FIRE PROTECTION**										

STUDY COLLECTION CENTRE

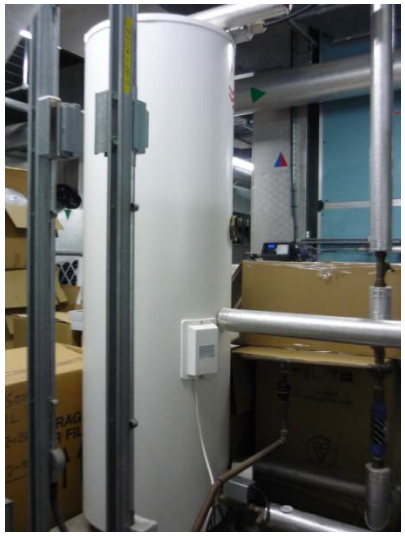
Work Item Ref.	Main Element	Location	Description	Brief Details of Work Item	Condition Code	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)	Comments
4.01	Fire Alarm System	Level 1. Main Hall	Manufacturer: Fire Dynamics Limited. Model Fire Point 2. This unit is approximately 8 years old and is considered to be in satisfactory condition commensurate with its age.	Allowance to replace life expired smoke/heat detectors on a phased basis.	3			5,000.00			

Summary

SERVICES	Year 1 (2017)	Year 2 (2018)	Year 3 (2019)	Year 4 (2020)	Year 5 (2021)
Mechanical Services	£11,600.00	£20,000.00	£17,700.00	£32,200.00	£12,000.00
Electrical Services	£8,500.00	£1,000.00	£1,000.00	£1,000.00	£1,000.00
Public Health	£0.00	£12,000.00	£3,500.00	£0.00	£0.00
Fire Protection Services	£0.00	£0.00	£5,000.00	£0.00	£0.00
Total	£20,100.00	£33,000.00	£27,200.00	£33,200.00	£13,000.00

6. PHOTOGRAPHS

2001 Extension - Typical Viking AHU



2001 Extension - Kitchen & Toilet HW calorifier_1.0

2001 Extension - Typical Viking AHU_1.0

Aquarium Chiller enclosure - Typical chiller_1.0

Aquarium Plant Room 4 - Poorly installed plate heat exchanger_1.0

Aquarium Plant room No 1 - Backwash Pump severe salt deposits_1.0

Aquarium Plant room No 1 - Typical sand filter_1.0

Aquarium Plant Room No 1 - Typical UV lamp array_1.0

Aquarium Plant Room No 5 - Heavily contaminated ventilation duct_1.0

Aquarium Plant room No 9 - Salt contaminated surge pump_1.0

Aquarium Plant room No1 - Temporary AC unit_1.0

Bothy Building - Gas fired Boiler_1.0

Bothy Building - Ground floor HW Calorifier_1.0

Clock Tower - CW Storage Tanks_1.0

Cue Building - Hot Water Storage heater_1.0

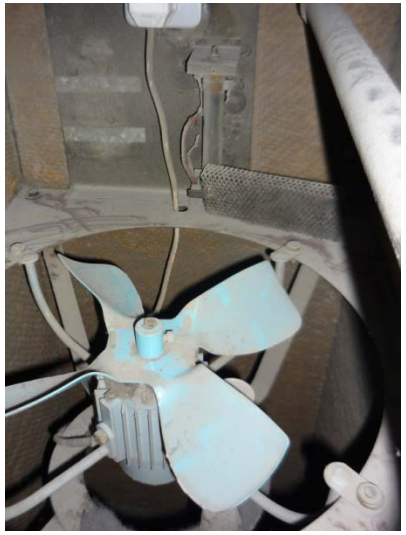
Michael Horniman Building - Gas fired boiler_1.0

Michael Horniman Building - Toilet Extract_1.0

Michael Horniman Building - Typical fume Cupboard_1.0

Michael Horniman Building - Typical mobile humdifier unit_1.0

Michael Horniman Building - Typical POU Extract hood_1.0



North Hall - Fan coil unit_1.0

North Hall - Typical Humidifier_1.0

Nursery Cottage - Gas fired Boiler_1.0

Nursery Cottage - Typical Radiator_1.0

SCC - External refrigeration units_1.0

SCC - Gas fired boilers_1.0

SCC - Main Hall humidifier_1.0

SCC - Main heating circulation pumps_1.0

SCC - Mezzanine hot water heater_1.0

SCC - Typical air circulation fan_1.0

SCC - Typical electrical distribution board_1.0

SCC - Typical Radiator_1.0

South Hall basement court yard - Dilapidated humidifiers_1.0

South Hall Basement - Typical switchgear_1.0

South Hall Boiler room - Basement heating pump set_1.0

South Hall Boiler room - Contaminated internal ducting_1.0

South Hall Boiler Room - Gas fired Boilers_1.0

South Hall Boiler room - HW Calorifier_1.0

South Hall Boiler Room - Strainers_1.0

The Pavillion - Cold Water Storage Tank_1.0

The Pavillion - Electrical switchgear_1.0

The Pavillion - Ground Source heat pump_1.0

The Pavillion - Hot Water Storage calorfier_1.0

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