

HERITAGE STATEMENT



FRANKHAM

IN SUPPORT OF THE LISTED
BUILDING CONSENT FOR HEATING
AND VENTILATION SYSTEMS
REPLACEMENT

At
EUSTON FIRE STATION
LONDON
NW1 2DH

For:



LONDON FIRE COMMISSIONER
169 UNION STREET
LONDON
SE1 0LL

Prepared by:

Frankham Consultancy Group Limited
Irene House
Five Arches Business Park
Maidstone Road
Sidcup
Kent DA14 5AE

Telephone: 020 8309 7777

Issue Date:
14th December 2020

File Reference:
227637-FCG-XX-XX-RP-B-0401-S2-P01

BRINGING IDEAS TO LIFE



DOCUMENT VERIFICATION

HERITAGE STATEMENT

IN SUPPORT OF THE LISTED BUILDING CONSENT FOR HEATING AND VENTILATION SYSTEMS REPLACEMENT

AT:

EUSTON FIRE STATION, LONDON, NW1
2DH

FOR:

FRANKHAM PROJECT NO.:

227637

Signature:

Name:

Prepared by:

Tom Grieves MRICS

Reviewed by:

Brian Gallagher BSc (Hons)
MRICS

Approved by:

John Murray BSc MRICS

| Issue Purpose | Rev. | Issue Date | Prepared by | Reviewed by | Approved by |
|-----------------------------|------|------------|-------------|-----------------|-------------|
| For listed building consent | P01 | 15/12/2020 | Tom Grieves | Brian Gallagher | John Murray |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |



CONTENTS

1.0 INTRODUCTION AND PROPOSED WORKS 4
2.0 THE PROPERTY AND APPEARANCE OF SURROUNDING AREAS 4
3.0 REASONS FOR THE ALTERATIONS 6
4.0 THE POLICIES AND DESIGN CONSIDERATIONS 7
5.0 HERITAGE STATEMENT 7
6.0 SUMMARY 8

APPENDICES

- A LIST OF SUBMITTED DRAWINGS**
- B PHOTOGRAPHS**
- C PROPOSED REPLACEMENT EQUIPMENT**



1.0 INTRODUCTION AND PROPOSED WORKS

- 1.1 This report supports the application to strip out and replace with new the heating, domestic water, gas and ventilation systems in the building.
- 1.2 Following a survey undertaken in May 2020 it was found that some of the existing mechanical services are life-expired and at the point of failure. The report recommended the replacement of these to prevent sudden breakdown, the need for urgent reactive repairs and associated impact on the operation of the Fire Station.
- 1.3 The works proposed are all to be carried out internally and will not affect the external appearance of the building.
- 1.4 The new systems will reuse existing plant locations and pipe-runs, flues and ductwork where possible. The method of operation of the systems will not change substantially, e.g. proposed and existing boilers are both gas fired.

2.0 THE PROPERTY AND APPEARANCE OF SURROUNDING AREAS

- 2.1 Euston Fire Station is a grade II* listed building located at 172 Euston Rd, Kings Cross, London NW1 2DH. It houses an active Fire station with 2 firefighting appliances currently deployed.
- 2.2 The Surrounding Area
- 2.3 The building lies just within the Bloomsbury Conservation Area. The immediate surrounding area consists predominantly of shops, offices, main railway stations and major traffic arteries.
- 2.4 Bloomsbury Conservation Area is located within central London, its southern boundary around 750 metres north of the River Thames. It covers an area of approximately 160 hectares which extends from Lincoln's Inn Fields and High Holborn to Euston Road and from King's Cross Road to Tottenham Court Road.
- 2.5 The Conservation Area is situated midway between the earlier settlements of the City of London and the City of Westminster. It is located to the northern periphery of the older areas of Soho and Covent Garden, which had been developed during second half part of the 17th century and now are a focus for leisure and entertainment. To the south-east is Finsbury which extends into the financial district of the City. Clerkenwell lies to the east. To the north of the Conservation Area, the great Victorian railway termini of King's Cross, St Pancras and Euston line the northern side of Euston Road. To the west is Fitzrovia extending to the boundary with Westminster.
- 2.6 Bloomsbury is an internationally significant example of town planning. The original street layouts, which employed the concept of formal landscaped squares and interrelated grid of streets to create an attractive residential environment remain a dominant characteristic of the area.
- 2.7 The main arterial routes tend to have larger scale buildings, addressing broader, busier streets. Apart from Euston Road (formerly New Road), which was built as

- a by-pass in the 18th century, these arterial routes follow older historic alignments of roads or tracks.
- 2.8 Euston Road is a wide, heavily trafficked 'A' road, consisting of a dual carriageway with broad pavements and mature street trees. Many buildings adhere to a classical architecture and were built in the first half of the 20th century as replacements of the earlier 19th century domestic terraces and the southern half of Euston Square. Later 20th and early 21st century buildings tend to be of a larger scale and height, with several incidents of high rise buildings along the stretch of the road outside the Conservation Area and to the north of Euston Square, all of which dominate the skyline and long views. Traditional building materials are red brick, Portland stone and stucco, which exist alongside a modern vocabulary of glass, steel and concrete.
- 2.9 The Property
- 2.10 Euston Fire station is 'L' shape in plan with the principal elevation, a five to six storey building, on Euston Road and the subservient elevation on Euston Square. The building is arranged with appliances bays, reception, and watch room on the ground floor and offices, dormitories and recreation rooms on the floors above. The main staircase is positioned centrally and a second stair is accessed from the south west corner and leads directly to the fourth floor. London Fire Brigade's Counselling and Wellbeing Centre occupies the first floor and part of the third floor with separate access from street level via the staircase at the southern corner of the building.
- 2.11 The building is constructed in red brick with portland stone to the ground and third floor and the façade is designed in an Arts and Crafts domestic style. The facades are asymmetrical with irregular height and massing with projecting square and canted bays. The roofline is a romantic arrangement of steep slate roofs, deep eaves, dormers, gables and high chimneys.
- 2.12 The fenestration to the upper levels is varied and combines mullioned and transomed windows, narrower vertical windows, canted and doubled stone oriel windows and some oculi. On the Ground Floor the façade is treated differently from the building above and the importance of the appliance bays and pedestrian entrance are implied with the change of facing material to Portland stone.
- 2.13 On the front façade the two original appliance bays are separated by stone piers with a portcullis lintel detail and the lettering 'L.C.C. FIRE BRIGADE STATION EUSTON 1902'. To the left of this is a large arched window, a canted bay with single windows and a single storey entrance to the private stair with small windows and a slate roof. To the right of the original appliance bays is a single storey extension built in the 1920's with a slate roof that houses the three current appliance bays.
- 2.14 The façade to Euston Square is dominated by the left-hand projecting rectangular bay, double height stone canted bay to the third and fourth floors and diagonal balcony between. At roof level the projecting canted bay results in a deep eaves detail that provides shelter to the balcony. The adjacent rectangular bay terminates far above this roof with a series of clerestorey windows. At ground level two distinctive mullion and transom bay windows sit either side of the previous entrance to the rear yard. This has since been infilled with a large,

depressed arch window, but the gate post and gates remain. To the far-right hand side is the entrance to the private staircase to the fourth floor. This stone porch has a segmented arched doorway and an arts and crafts period slate roof.

- 2.15 The original stone walls, stone gate piers and railings survive to the front and side of Euston Fire Station. The gate piers to the front corner of Euston Road and Euston Square have an inset geometric pattern to the head and lanterns that read 'FIRE' and protrude from the top of the stone piers marking out the activity of this building. These gate piers are the exit for appliances leaving the station and are more elaborate as a result. The other stone gate piers on Euston Road and intermediate stone piers are secondary to the corner gate and are have been designed in a more modest gambrel shape. The wrought iron railings that span between these piers have been designed in a portcullis design with spikes on the top and bottom rail.
- 2.16 The rear yard to Euston Fire station is enclosed with a set of modern black powder coated metal gates and railings and a low red brick dwarf wall. The railings and gates are supported by black powder coated square metal piers that sit between sections of the dwarf wall and behind the wall at the junction of the vehicular gates. The railings are arranged so that they are positioned on the centre of the brick wall. The double swing vehicle gates are recessed and open manually taking time and space in the yard. This dwarf wall is constructed in a plain red brick that is sympathetic with the rear wall of the building on the corner of Euston Square. These recent additions to the fire station are functional but of no historic interest.

3.0 REASONS FOR THE ALTERATIONS

- 3.1 Following a survey of the installations, the overall condition of the heating, domestic water services and ventilation systems on site was found to be poor. The boilers have reached the end of their expected economic lifespan, two have been condemned and the third is presumed to be at risk by association and similarity.
- 3.2 The overall condition of the ventilation services on site was found to be poor. The supply and extract AHUs all appear to be approximately 30 years old and are showing signs of deterioration throughout. It is also believed the current ventilation plant installation does not comply with the Specific Fan Power requirements as stipulated within the Building Regulations and requires upgrading as a result.
- 3.3 Most of the heating, and domestic water services distribution pipework has reached (or exceeded) its economic lifespan and is at risk of failure, with various sections of pipe and valves in the system believed to be compromised by the presence of heavy corrosion and rust.
- 3.4 The pressed steel radiators have all exceeded their economic lifespan and a few appear to be in reasonable condition, but all are likely to be operating at reduced efficiency due to their internal deterioration over time.
- 3.5 The internal ventilation grilles have all exceeded or are close to their economic lifespan and many appear to be in reasonable condition, but all are likely to be

operating at reduced efficiency due to the lack of maintenance undertaken over time.

4.0 THE POLICIES AND DESIGN CONSIDERATIONS

4.1 The following policies/documents have been considered as part of this application:

- Camden Local Plan (extract).

Sustainability measures in listed buildings. Para 7.62

Proposals that reduce the energy consumption of listed buildings will be welcomed provided that they do not cause harm to the special architectural and historic interest of the building or group. Energy use can be reduced by means that do not harm the fabric or appearance of the building, for instance roof insulation, draught proofing, secondary glazing, more efficient boilers and heating and lighting systems and use of green energy sources.

- London Plan 2016 (extract).

Policy 7.8 Heritage assets and archaeology

Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

4.2 In relation to the relevant planning policies listed above the proposed works will not harm the fabric of the building but will reduce its overall energy consumption.

4.3 Any alterations to the fabric of the building required due to new ducting or pipe runs are to be avoided and kept to a minimum as the existing ductwork and pipe runs are to be reused. None of the specific areas mentioned in the listing will be altered by these works.

4.4 The systems to be removed are relatively modern and not part of the original installation. E.g. heat emitters are pressed steel, not cast iron.

4.5 Apart from the basement level (plastered ceiling finishes) the rest of the building is finished with suspended 600x600mm ceiling tiles. It was noted that where the services are routed within spaces with plastered ceilings, they are exposed. The exposure of the pipework, ductwork and accessibility within the suspended ceilings, would mean that the existing services may be stripped out and replaced without excessive builders works or disturbance to fabrics.

5.0 HERITAGE STATEMENT

5.1 The Fire Station at Euston Road is a grade II* property. Apart from the building itself, the listing includes the boundary walls, gate piers and railings.

5.2 Designed by HFT Cooper of the Fire Brigade Branch of the London County Council Architects' Department, it was built by Stimpson & Co in 1901-02, altered and extended around 1920 with later more recent alterations.

- 5.3 Use of the building is largely taken up by the fire station operations but some sections are occupied by the LFB's Advice and Counselling Service which has independent access to the building.
- 5.4 The Listing Details provided on the Camden Council website focus predominantly on the external envelope of the building, but mention is also made of the interior as follows;
- "INTERIOR: Extensively refurbished in the 1990s. Some original features including doors, dado panelling in ground-floor former recreation room, and fireplaces survive, but generally much altered. Stone stair with plain iron balustrade."*
- 5.5 The works proposed as part of this application are confined to the internal areas of the fire station with no impact on the external fabric or appearance. The parts of the mechanical services impinging on the external elevations such as the existing louvres are to be retained.
- 5.6 Where works are carried out to the internal areas mentioned in the listing such as radiators and supply pipework to the dado panelling in the recreation room, this will be a simple like for like replacement resulting in no detriment to the heritage asset.
- 5.7 Internally, the existing heating, domestic water supply and large parts of the ventilation system will be stripped out. The existing installations are relatively modern and not original fittings but have or are soon expected to be reaching the end of their life expectancies. Pipework is concealed above suspended ceilings where possible. Where this drops down to service level it is wall mounted and run in malleable iron or copper pipework.
- 5.8 These systems will be replaced with similar new but more efficient equipment. Existing pipe runs and penetrations will be re-used whenever possible. Existing flues and ductwork will be re-used where possible. Replacement equipment will reuse the locations of the existing equipment wherever possible.

6.0 SUMMARY

- 6.1 The application is to replace the existing heating, domestic water, gas and ventilation systems at Euston Fire Station.
- 6.2 The importance of the heritage asset is recognised, and the aim of the works is to replace the mechanical services without detriment to the heritage asset. Replacement of the existing systems in place in a manner to minimise any disruption to the internal fabric of the building will protect the heritage features identified in the listing and reduce the risk of damage to them and the wider building by any possible future failure of these aging systems.
- 6.3 Where builder's works are required these will be made good to match the existing finishes.



- 6.4 The replacement of the stated systems will not negatively impact on the heritage features of the property while providing a more energy efficient building with increased reliability.



APPENDIX A

LIST OF SUBMITTED DRAWINGS



| Drawing Reference | Drawing Name |
|-----------------------------------|---|
| 227637-FCG-MB-00-DR-M-5303-D2-C01 | GF Proposed Domestic Water Layout |
| 227637-FCG-MB-00-DR-M-5603-D2-C01 | GF Proposed Heating Layout |
| 227637-FCG-MB-00-DR-M-5702-D2-C01 | GF Proposed Ventilation Layout |
| 227637-FCG-MB-01-DR-M-5304-D2-C01 | FF Proposed Domestic Water Layout |
| 227637-FCG-MB-01-DR-M-5604-D2-C01 | FF Proposed Heating Layout |
| 227637-FCG-MB-01-DR-M-5703-D2-C01 | FF Proposed Ventilation Layout |
| 227637-FCG-MB-02-DR-M-5305-D2-C01 | 2ndF Proposed Domestic Water Layout |
| 227637-FCG-MB-02-DR-M-5605-D2-C01 | 2ndF Proposed Heating Layout |
| 227637-FCG-MB-02-DR-M-5704-D2-C01 | 2ndF Proposed Ventilation Layout |
| 227637-FCG-MB-03-DR-M-5306-D2-C01 | 3rdF Proposed Domestic Water Layout |
| 227637-FCG-MB-03-DR-M-5606-D2-C01 | 3rdF Proposed Heating Layout |
| 227637-FCG-MB-03-DR-M-5705-D2-C01 | 3rdF Proposed Ventilation Layout |
| 227637-FCG-MB-04-DR-M-5307-D2-C01 | 4thF Proposed Domestic Water Layout |
| 227637-FCG-MB-05-DR-M-5608-D2-C01 | 5thF Proposed Domestic Water Layout |
| 227637-FCG-MB-B1-DR-M-5001-D2-C01 | Proposed Boiler Room Layout |
| 227637-FCG-MB-B1-DR-M-5302-D2-C01 | Bsmt Lvl Proposed Domestic Water Layout |
| 227637-FCG-MB-B1-DR-M-5602-D2-C01 | Bsmt Lvl Proposed Heating Layout |
| 227637-FCG-MB-B1-DR-M-5701-D2-C01 | Bsmt Lvl Proposed Ventilation Layout |



APPENDIX B

PHOTOGRAPHS



Photograph 01 – Euston Fire Station



Photograph 02 – Euston Fire Station



Photograph 03 – Boiler Flues



Photograph 04 – Air intake for Flue Dilution System



Photograph 05 – Services pipework to main building



Photograph 06 – Genie Winder Charging Point within Appliance Bay



Photograph 07 – Cold Water Storage Tank within fifth floor Tank Room



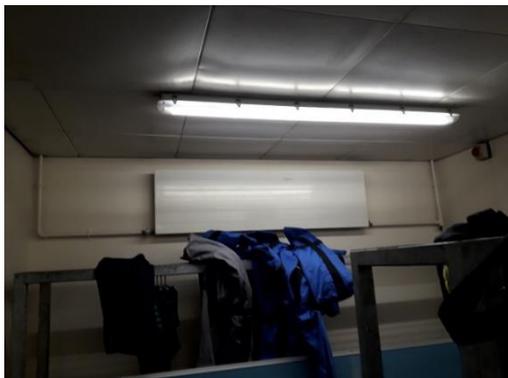
Photograph 08 – General supply and extract AHU within Appliance Bay



Photograph 09 – Example of a 600x600mm supply diffuser



Photograph 10 – Example of SPC radiator and heating distribution pipework



Photograph 11 – Example of SPC radiator



Photograph 12 – Example of domestic water services distribution pipework



Photograph 13 – Example of domestic water services distribution pipework



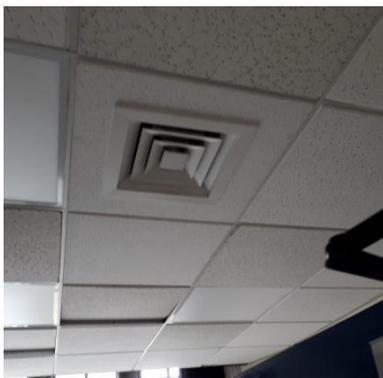
Photograph 14 – Prep Kitchen extract duct connection from canopy



Photograph 15 – Example of a local ceiling mounted extract fan



Photograph 16 – Example of a 250x250mm extract grille



Photograph 17 – Example of a 450x450mm supply diffuser



Photograph 18 – Example of a 600x600mm supply diffuser



APPENDIX C

PROPOSED REPLACEMENT EQUIPMENT



Diffusers – Gilberts BLACKPOOL Series



Radiators – Stelrad ELITE K1



Boilers – AO SMITH UPSILON CASCADE – UB110



Expansion Vessel – FLAMCO FLEXCON



Domestic Hot Water Heater – ADVECO SSI 500/1.5



Booster Set – AQUATECH PRESSMAIN AMV2-FE-6-4



Gas Fired Space Heater – REZNOR UDSA-4E