

Background Papers:

Preliminary Assessment of the Environmental and Conservation Issues associated with the proposed installation of air conditioning, November 2019

Heritage Statement submitted with application ref. 19/00521/FULL

15/07/2020 Noise Modelling of Proposed Enclosure for Air Conditioning Condenser Units

04/09/2020 Air Cooling Design and Access Statement

01/10/2020 Letter, Conservation Area Advisory Committee

05/10/2020 Email, Environmental Health

20/11/2020 Letter, Historic England

20/12/2020 Comment, Christopher Jones (Objection)

20/12/2020 Comment, Kathryn Colvin (Objection)

21/12/2020 Comment, Jeffery Harvey-Wells (Objection)

22/12/2020 Comment, Charles Smart (Objection)

22/12/2020 Comment, Zoe Vucicevic (Objection)

25/01/2021 Response document from Applicant to objections

20/01/2021 Email, Environmental Health

02/02/2021 Comment, Ann Holmes (Objection)

15/02/2021 Letter, Kathryn Colvin

TOBIT CURTEIS ASSOCIATES LLP

STATIONERS' HALL, LONDON

PRELIMINARY ASSESSMENT OF THE ENVIRONMENTAL AND
CONSERVATION ISSUES ASSOCIATED WITH THE PROPOSED
INSTALLATION OF AIR CONDITIONING

NOVEMBER 2019

33 Cavendish Avenue Cambridge CB1 7UR

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2. The survey is based on information or data available to the author at the time of writing it is possible that, if further information or data becomes available, conclusions may be refined.
3. The examination was limited to those areas which were safely accessible during the survey. It is possible that conditions might vary in areas which could not be examined.
4. No opening up was carried out and no materials analysis, environmental monitoring or other technical investigations have been undertaken other than that specified in the report.
5. Information in this report is intended to provide an understanding of the building and environment relating to the conservation of the fabric and artefacts. It does not address structural integrity, microbiology, environmental health or any other health and safety matters which should be referred to the appropriate specialist.
6. Comments on the condition of the building fabric and artefacts are in general terms only and recommendations do not constitute a formal specification for conservation treatment, building repairs or other work. If any intervention is to be undertaken the advice of the appropriate professional adviser should be sought, and a formal specification prepared by them.

1.0 INTRODUCTION

Stationers' Hall is a building of considerable architectural significance and houses within it a collection of comparable importance. As well as its ceremonial functions, the building hosts numerous hospitality events and dinners. For many years it has been found that, particularly in the summer, the conditions within the Great Hall and the adjacent rooms can become uncomfortably hot.

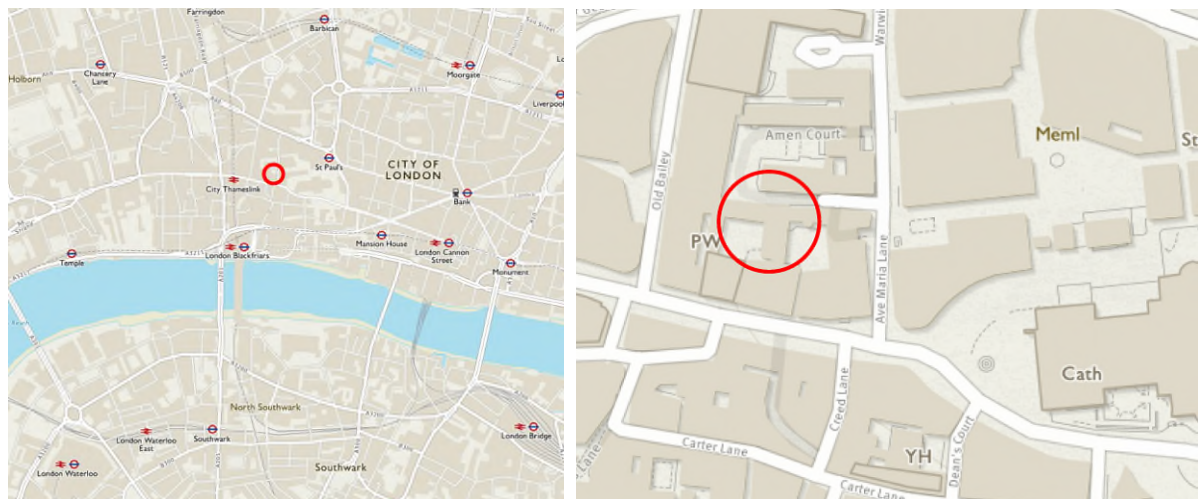
A project is now being developed to introduce air-conditioning into the Great Hall and surrounding rooms in order to improve comfort conditions.¹ As part of the enabling works, at the request of the project architect, Laura Morgante of Peregrine Bryant Architects, Tobit Curteis Associates (TCA) has been instructed to carry out an environmental performance assessment of the building and collection. The aim of the study is to evaluate the existing environmental performance of the building and the impact on the sensitive architectural fabric and artworks and to assess the possible risks to sensitive materials of the introduction of air conditioning, so as to provide guidance on control and mitigation measures.

An initial examination of the building was carried out on 27th September 2019. The main survey was undertaken on 29th November 2019. The weather on the day of the main survey was cold and clear.

2.0 THE SITE

2.1 Location

Stationers' Hall is situated immediately to the north-west of St Paul's Cathedral and some 400m to the north of the River Thames. This is an area of comparatively flat land at an elevation of approximately 25m ASL, with nearby borehole data showing buildings generally constructed on made ground over London clay, as is the case for much of the city.²



Figures 1 & 2. OS maps showing the site location

The building is located in a courtyard to the west of Paternoster Square off Ave Maria Lane and is surrounded on all sides by far taller structures. On the west side of the Great Hall, there is a small enclosed courtyard with an extremely large plane tree which stands above the Stationers' Hall buildings but is dwarfed by the

¹ Plans are also under development to construct a new link building to the west of the Great Stair. Peregrine Bryant, Stationers' Hall, Design and Access Statement, Proposed Link and Building Refurbishment, May 2019.

² http://scans.bgs.ac.uk/sobi_scans/boreholes/1066921/images/12527474.html and http://scans.bgs.ac.uk/sobi_scans/boreholes/1063424/images/12528444.html

surrounding structures. As a result, the building is relatively sheltered from prevailing weather conditions. The building grade I listed.³

2.2 Structure and Development ⁴

Founded in 1403, the Worshipful Company of Stationers and Newspaper Makers received its Royal Charter in 1557. The site of the present Stationers' Hall was purchased by the Company in 1606 and the existing building destroyed in 1666 during the Great Fire of London. The oldest parts of the present building date from circa 1670 with the hall having been remodelled in 1800.

The Great Hall, which is part of the 1670s structure, is situated on the first floor above offices. The walls are constructed of brick and are faced on the east elevation with Portland stone. On the west and southern elevations, the brickwork is faced with a hard cementitious render.



Figures 3 -5. External views of the Great Hall from the east and west and in the courtyard.

The walls are more than 1m thick and are faced on the internal side with timber panelling to a height of approximately 3.5m- 4.3 m, apparently dating to the original 17th century construction. Above this, the walls are rendered and painted. No access was available to establish whether the render was lime or cement, but it is presumed that the paint is a synthetic emulsion. The floor is of plain timber boarding and, at the south end, there is an elaborate screen and gallery, also dating to the 17th century.

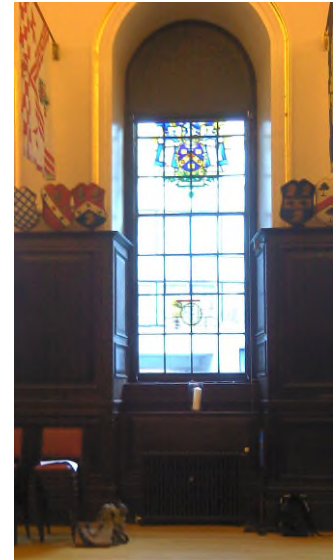
³ List entry number 1064742

⁴ Much of the information in this section report is drawn from Alan Baxter, Stationers' Hall, Statement of Significance, April 2016 and Peregrine Bryant, Stationers' Hall Link Building and Anteroom: Heritage Statement, May 2019



Figure 6. Internal view the Great Hall facing north.

Along the east and west walls, there are five large single glazed windows, with stained-glass on the western windows and plain glazed sash windows on the east side. In the north wall there is a large, arched, stained-glass window.



Figures 7 - 9. Details of the windows in the Great Hall.

The ceiling is of plaster construction dating to the 1950s, using a technique of preconstructed sections suspended from a steel frame, and is uninsulated.

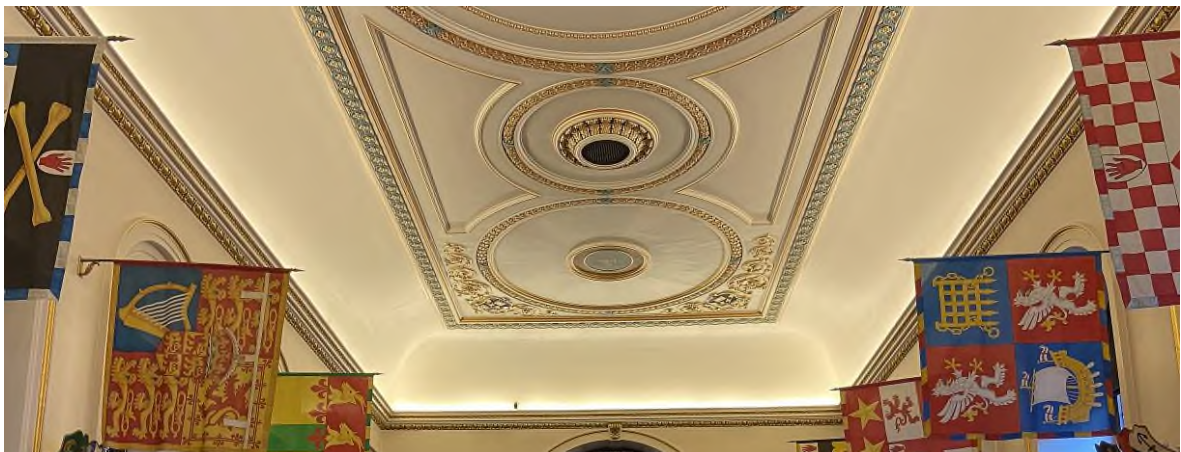
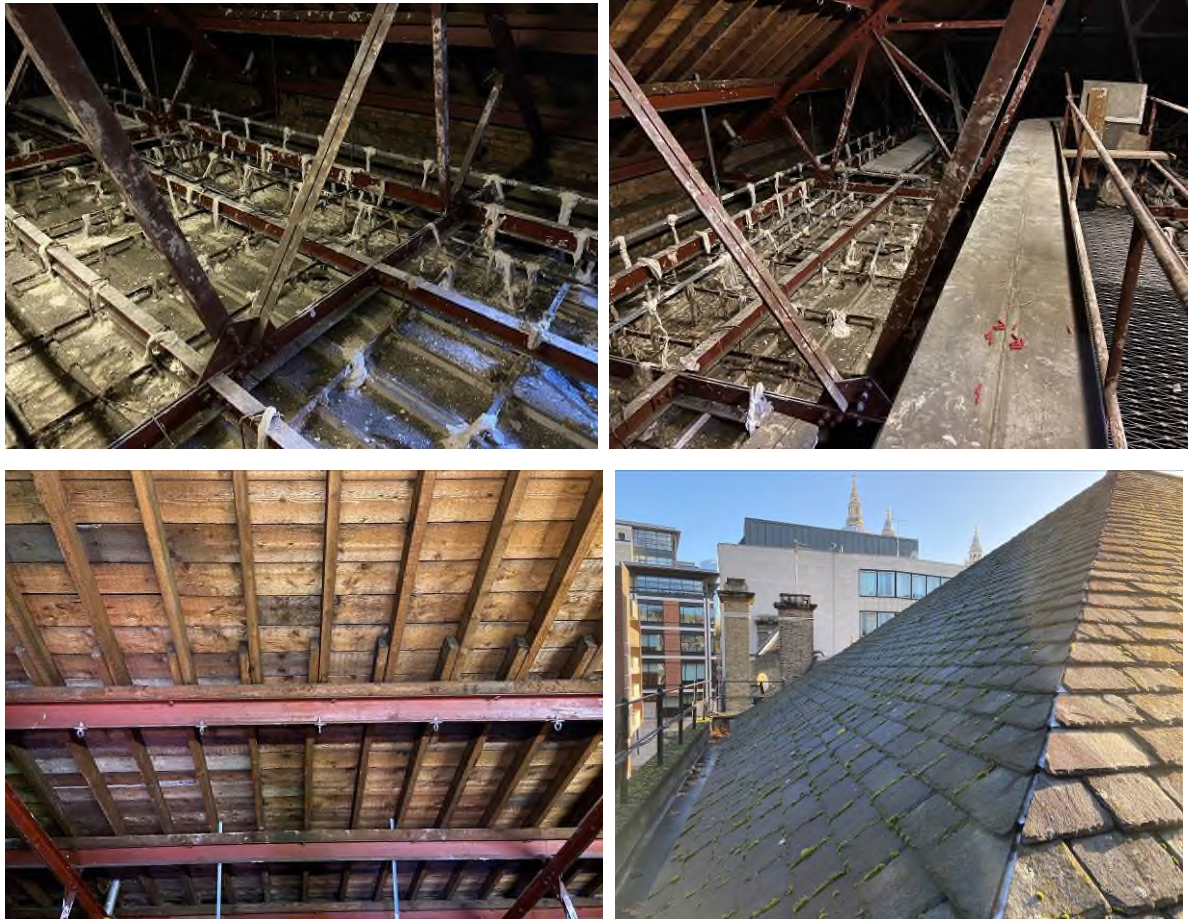


Figure 10. View of the plaster decoration on the ceiling of the Great Hall.

The roof is a close boarded timber construction with slates. It is understood that the roof dates to the 1950s. The ceiling has recently been repaired with additional suspension points.⁵



Figures 11 – 14. Details of the ceiling structure and the roof.

The area of the building that extends west from the Great Hall, which now comprises the Ante Room, the Court Room and the Card Room, was constructed in the 17th century, but was subsequently modified and then, following the bombing in the Second World War, was extensively reconstructed in the 1950s. This is a less substantial building structure than the Great Hall with brick walls between 500mm and 600mm thick.



Figure 15. View of the Court Room facing east.

⁵ Stevensons, Stationers' Hall, report on ceiling structure, February 2019.

In the Ante Room, there is a large clear glazed sash window in the north and south walls, while in the Court Room, there are four large single glazed sash windows in the south wall. In the Card Room, there are no windows at low level but a glazed lantern above the whole hexagonal space. Floors are of timber board with fitted carpets in the centre.



Figures 16 & 17. View of the Card Room with the glazed lantern.



The ceilings are of plaster construction, which is thought to be similar to that of the Great Hall and, while the anteroom is a plain coved structure, the Court Room has extensive applied decoration. There is a floor above the eastern part of this extension which houses the library and archives.



Figures 18 & 19. The libraries and archives above the Court Room.

The Stock Room, to the east of the Great Hall, is of 19th century construction with brick walls faced with Portland stone on the external elevation.



Figure 20. View of the Stock Room facing east.

Internally the walls are panelled. The ceiling is of ornate plaster construction, presumed to be similar to that of the Great Hall with a roof space above, and the walls are decorated with original timber panelling.⁶

3.0 BUILDING CONDITION

It appears likely from the condition of the external fabric that there have been periods in the history of the building when maintenance has not been of an especially high level and when deterioration has occurred. However, in general, it appears that the building is now in a relatively good state of repair and inspection and maintenance have been given a high priority.

Although a full building inspection was not carried out as part of the current study, there are two issues which are worthy of consideration and relate to the environmental issues under consideration. Firstly, the condition of the hard cementitious render on the west and south elevations of the Great Hall appears to vary. There are numerous hairline cracks, as well as evidence of previous repairs. Because of the low porosity of the render, where it is cracked or water can penetrate into the brickwork via another route, it will be unable to evaporate to the exterior and therefore will be encouraged to evaporate towards the internal surfaces. This could have a significant and deleterious effect on internal panelling and artefacts mounted against the wall.



Figures 21 & 22. Details of cracking to the render and previous repairs on the west elevation of the Great Hall.

The second issue that is of direct relevance to the current study was the loosely fitting windows, which allow significant air exchange to the exterior via joints between sashes or gaps around opening sections of stained-glass. While this is not an exceptionally high risk in and of itself, air leakage of this type reduces the buffering provided by the building envelope, making conditions within the building more unstable and increasing stresses on hygroscopic and sensitive artworks.

⁶ This roof space was not accessed during the current survey.

4.0 THE COLLECTION

In the Great Hall, there are some of the most architecturally significant elements of the 17th century decorative panelling and timber decoration, including boards painted with the names and dates of previous Masters of the Company.



Figures 23 & 24. The painted lists of Masters of the Company on the timber panelling in the Great Hall.

On top of the panelling, there are shields, which are presumed to be of timber construction, painted with heraldic devices and, at the south end on the gallery and on the wall above, there are ornately carved royal coats of arms, also elaborately painted.



Figure 25. Some of the painted coats of arms above the panelling in the Great Hall.

Hanging on open display throughout the hall there are banners, many of which appear to be modern. At the north end on the west side, there is a swallow tailed pennant in a glazed frame, which is one of the Barge Flags of the Worshipful Company of Scriveners dating to c.1780.



Figure 26. Detail of a number of the modern banners on the north wall of the Great Hall.



Figure 27. The swallow tailed pennant mounted high on the north wall of the Great Hall.

At the north and south ends of the hall, there are glazed cabinets containing Company silverware and plate dating from the 17th to 19th centuries.



Figures 28 & 29. The glazed cases housing the silverware and plate at the north end of the Great Hall.

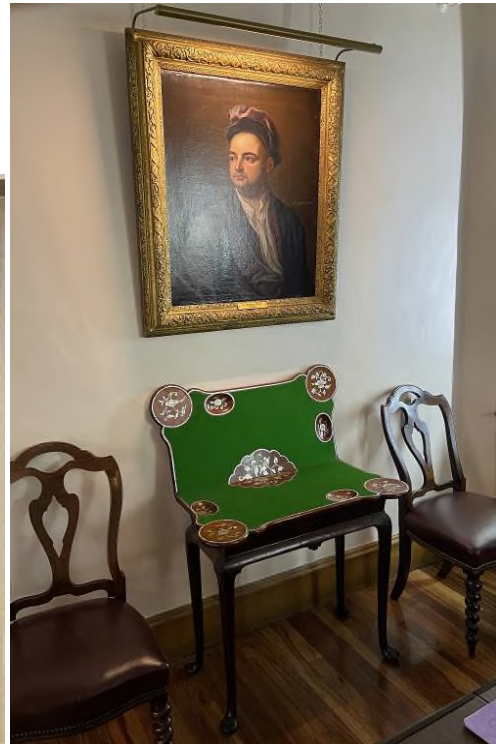
in the Stock Room, although the scale is smaller, the decorative scheme is similar with painted text on panelling and shields with heraldic devices. In addition, there are framed paintings on canvas depicting previous members of the Company.

Figures 30 - 32. Details of some of the canvas paintings in the Stock Room.



In the rooms to the west, there are numerous paintings on canvas depicting previous Company members and Biblical scenes, as well as some fine inlaid furniture.

Figures 33 & 34. Detail of some of the paintings and fine furniture in the Ante Room and Card Room.



In the Court Room hangs the Company's charter, granted by Charles II in 1684. This is an exceptionally finely painted velum scroll, with a large wax seal. It is mounted in a closed wooden cabinet, with a glazed front surface.



Figures 35 & 36. Details of the charter hanging on the south wall of the Court Room.



5.0 ENVIRONMENTAL PROFILE

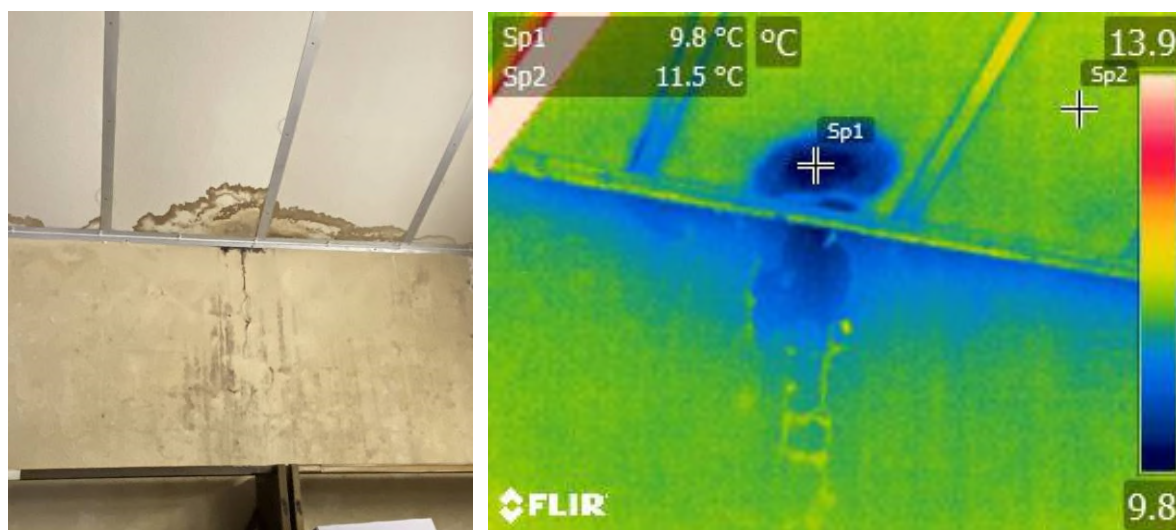
Next to mechanical damage, adverse environmental conditions are the greatest cause of long term deterioration for the architectural fabric and artefacts in historic buildings. While mechanical damage can be sudden and critical, with the exception of flooding, environmental deterioration is often long term and chronic making it more difficult to identify and control. However, the damage that is caused can be equally serious.

High levels of humidity can cause organic materials, such as timber structures, paintings and archives, to suffer microbiological growth, and unstable conditions can cause dimensional change and cracking. For inorganic structures, such as stone and plaster, unstable environmental conditions can cause salt activity or stresses within the materials, resulting in delamination between layers or powdering of the structure.

Therefore, in order to enable the long term conservation of the architectural fabric and artefacts, it is important to understand the environmental profile of the building and how it is affected by the way it is maintained and used. In general, both the building fabric and the artefacts within it require stable temperature and moisture conditions. For this reason, controlling water penetration into the structure and the humidity and temperature within the building is critical for the long term preservation of the building and its collection. However, the management and commercial needs of a building may not allow perfect conditions to be achieved in some areas and therefore a balance needs to be struck between the practical use of the building and its conservation requirements.

5.1 Liquid Water

The greatest short-term risk to the building fabric and collection is from water infiltration as a result of a failure of the building envelope and/or rainwater disposal system.



Figures 37 & 38. IRT image showing probable active water penetration in the archive store roof.

it is understood that the condition of the building in the past has sometimes been a matter of concern, but in recent years, an increasing focus on the repair and maintenance of the structure means that, as noted above, the building envelope now appears to be in good condition with inspection and maintenance given a high priority. As a result, with one minor exception, no instances of water penetration were observed during the inspection.⁷ the one area of damage which was noted, using infrared thermography, was on the north wall of

⁷ It should be noted that the survey did not include a comprehensive moisture assessment of the building but thermal imaging throughout the key spaces indicated no obvious areas of water penetration with the exception of that noted in the text.

the archive at high level, immediately above the wall plate and appeared to be associated with water infiltration from the gutter.⁸ The second area of staining to the west appeared to be comparatively dry.⁹

The rainwater disposal system on the Great Hall comprises lead lined parapet gutters discharging to cast iron hoppers and downpipes, which themselves discharge to underground drainage. A similar arrangement is in place on the extension to the west with lead hoppers and downpipes.



Figures 39 & 40. Details of the roof, parapet gutter and downpipe on the Great Hall.

Although the system appears to be in good order, it was not clear whether the current number of downpipes has sufficient capacity to deal with the sudden high-intensity rainfall events which are becoming more common.¹⁰ It is recommended that calculations are undertaken to establish the likely load in the event of high-intensity rainfall events and to determine how close the capacity of the system is to failure. If there is insufficient margin, it is recommended that plans are developed to increase downpipe numbers or sizes.

The volume of leaf and seed fall from the large plane tree in the courtyard is very considerable and, on the day of the survey, it was noted how quickly even wide parapet gutters become partially blocked. The inspection and clearance programme is understood to have prevented blockages to date, and it is recommended that the trees are correctly managed and pruned to minimise unnecessary canopy size and leaf fall.¹¹

⁸ Thermal imaging or Infra-Red Thermography (IRT) employs an imaging device sensitive to infra-red radiation (IR) to examine the temperature of surfaces. IR radiation is affected by the nature emissivity and reflectivity of different materials so precise IRT values may vary for different materials at the same actual temperature. Temperature can be affected by the loss of energy which occurs when water evaporates and, as a result, IRT can be used to identify areas of increased moisture content. IRT was undertaken using a Flir C2 and Flir E60bx units. IRT images in this report do not have a common thermal scale but have the ranges set to best illustrate the issue under discussion in the text.

⁹ Infra-red thermography shows temperature variations which, depending on pattern and intensity, can be indicative of increased levels of moisture. To confirm the assessment, it would be necessary to carry out a direct moisture examination of areas of staining.

¹⁰ For a discussion of the effect of changing rainfall patterns of historic buildings see National Trust, *Forecast Changeable*, 2015 and Robyn Pender, Tobit Curteis, Brian Ridout, (Eds.) *Building Environment*; in Bill Martin and Chris Wood (Series Eds.), English Heritage Practical Building Conservation, London 2015.

¹¹ The tree is almost certainly protected by statute and it would be necessary for a qualified tree surgeon to advise on the management of the tree.

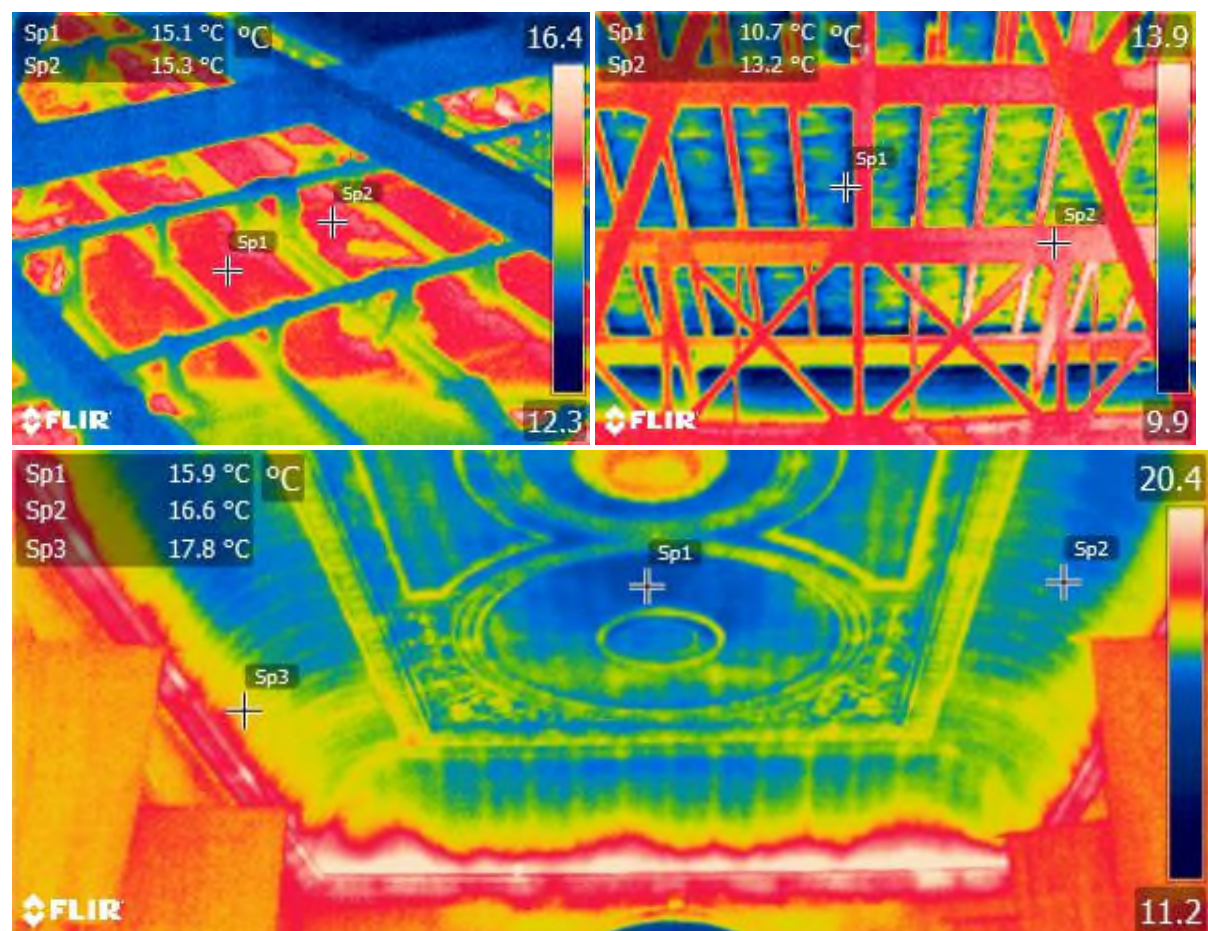
5.2 Microclimate

In the context of this project, microclimate refers to the temperature, humidity, light and UV levels to which the internal fabric and collection are exposed.

5.2.1 Passive performance

The building envelope is well constructed and is now relatively well maintained and might be expected to provide a good level of hygral and thermal buffering between the internal and external conditions. In other words, large fluctuations in the external weather should be reflected by far more stable conditions within the building.

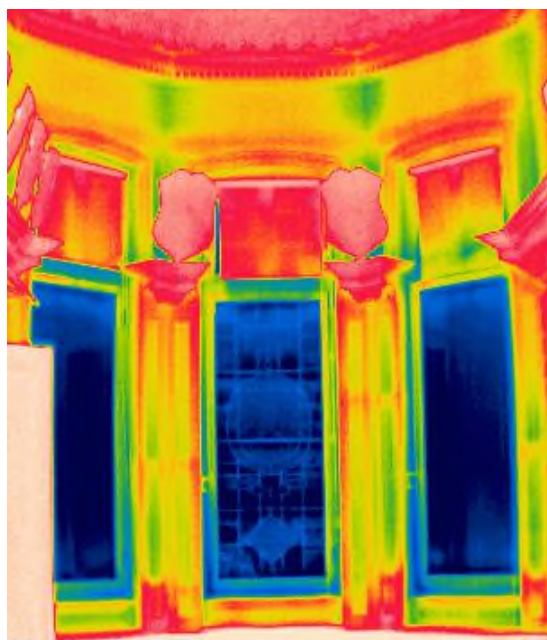
Passive thermal buffering is undermined to some extent by the comparatively minimal thermal insulation in the single glazed windows. IRT also showed that the thermal buffering provided by the ceiling was relatively low and variable, due to the lack of a formal insulation structure. Not only will this allow loss of warmed air during the winter but, in the summer, it will increase the impact of solar gain on the ceiling increasing the temperature below.



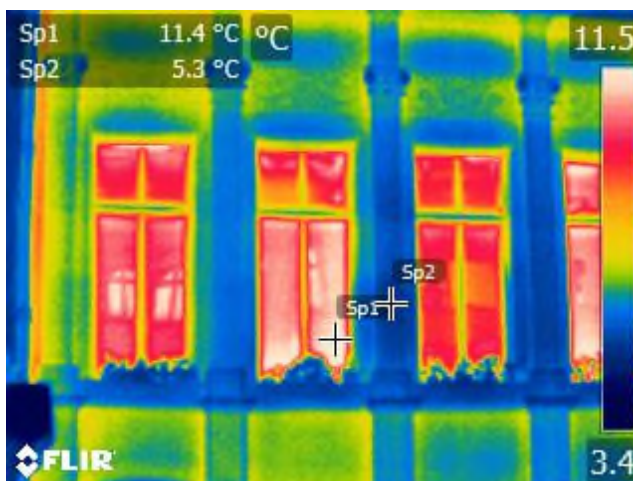
Figures 41 - 43. IRT images showing the low level of insulation in the Great Hall roof allowing radiant heat gain/loss via the roof and ceiling.

Hygral buffering, that is to say the exchange of water vapour to the exterior, is reduced by air leakage via opened and ill fitting windows and other architectural weaknesses, as well as external doors and windows being deliberately opened both to allow access and to ventilate the building from the exterior. During the survey it was observed that the external door to the south of the screen was open for long periods during delivery of catering equipment, and the screen door was sometimes held open. It was noted that both the stained glass windows in the Great Hall and the sash windows throughout the building could be opened to

allow direct external air exchange. All of these factors will reduce the buffering capacity of the building allowing unstable external air to infiltrate and destabilise the internal microclimate, increasing stresses on sensitive fabric and artefacts.

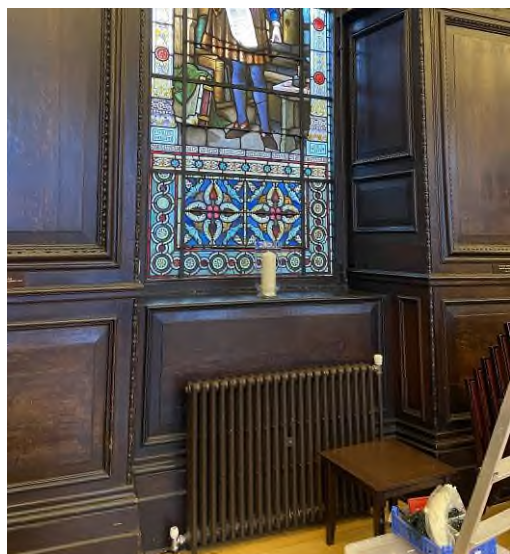


Figures 44 & 45. IRT images showing heat loss via the single glazed windows in the Stock Room and the Court Room.



5.2.2 Mechanical control

The greatest artificial influence on internal conditions is the heating, a hot water system powered by a gas fired boiler with perimeter cast iron radiators in the main rooms. The heating system is used between approximately October and April and is understood to be controlled by a flow temperature thermostat with some timer control. During periods of limited occupancy this can result in heating being in operation from approximately 07:00 – 15:30 on weekdays, but for periods of high occupancy and at weekends this can be 24 hours per day, 7 days per week.



Figures 46 & 47. Radiators in the Great Hall and Ante Room.



The effect of this periodic heating will be to cause significant increases in ambient temperature during periods of operation, which will be reflected by sharp decreases in relative humidity. When the heating is turned off, temperature will fall, and relative humidity will rise. This process will generate stress in organic and hygroscopic materials, such as paintings and timber which can lead to deterioration and failure.

Thermal imaging showed that, as is common with convective heat emitters of this type, a plume of warm buoyant air is formed above the unit which rises to the ceiling. Close to the emitters, there is some heat radiation so people in the immediate proximity receive direct infrared heating. This is a comparatively inefficient system in a large room such as the Great Hall, as it requires the entire air mass to be heated so that people, who are only situated in the lower 2m, can gain a thermal benefit. In the smaller rooms, on the east and west sides of the hall, the effect is more efficient as the airmass is considerably smaller with less vertical distribution.



Figures 48 & 49. IRT images showing the warmed buoyant air rising from the convective radiators to heat the ceiling above.

The conditions in the Great Hall are further hampered by the low level of thermal insulation in the roof meaning that much of the warmed buoyant air will cool at the ceiling level before the space is filled and thermal comfort is gained. The large single glazed windows will also reduce the efficacy of the heating but probably to a lesser extent.

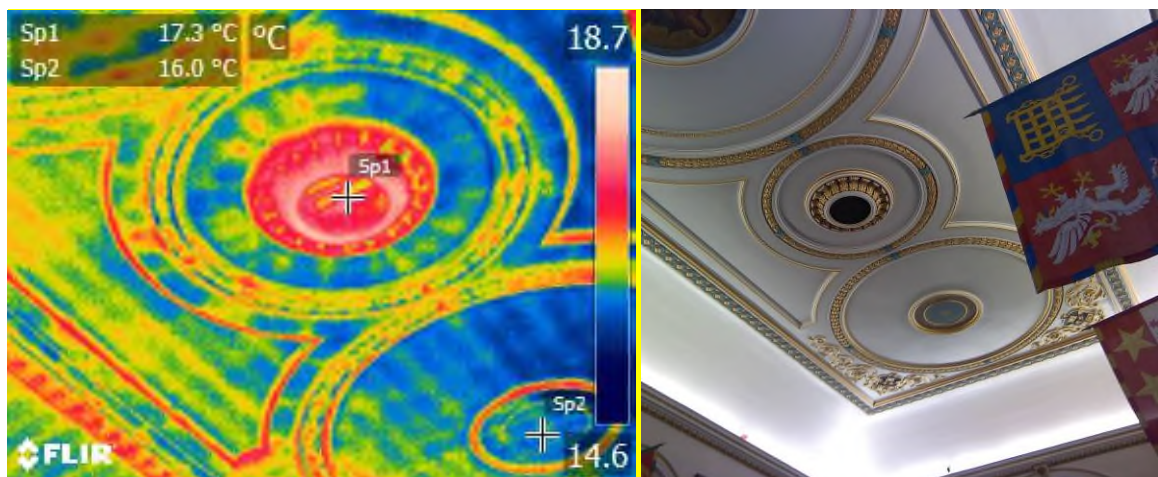
Spot tests for ambient relative humidity and air temperature on the day of the survey at 15:00 showed conditions of 67% relative humidity (RH) and 8.7°C external and 44% and 21°C internal (Great Hall). This demonstrates that absolute humidity (actual air moisture content) was 5.8 g/m³ externally and 8 g/m³ within the building, with a dew point temperature of 8°C. In other words, internal surfaces (such as glazing) which fell below 7°C were at risk of condensation. Spot tests of this type should be treated with some caution as they do not show fluctuations and, in this case, the internal values were subject to the effect of heating. However, they do indicate that the building has the ability to maintain significantly different conditions from those outside.¹² Significant destabilisation is to be expected both from heating and from solar gain through the east windows in the Great Hall and south windows in the buildings to the east and west.

An additional complicating factor in the Great Hall is the present mechanical ventilation system which comprises fans and ducting in the roof space extracting air from the decorative roundels in the ceiling, to the exterior louvred vent.

¹² Spot readings were taken with an Elsec 765C.



Figures 50 & 51. Details of the ducting in the roof and the large external louvred vent.



Figures 52 & 53. IRT image showing the warming of the ventilation opening as internal air is drawn through into the roof space as a result of stack effect.

This system is operated manually during events to increase airflow in the Great Hall, but with the current poorly performing fans, the resulting level of air movement is extremely low. Thermal imaging indicated that warmed air within the building exits via the vents in the ceiling, even when the fans are not in operation, presumably as a result of stack effect and differential internal/external pressure. When the fans are in operation there will be an increase in airflow which will also result in a reduction in both thermal and hygral buffering to the building as it will draw out warm air and cause external unstable air to be drawn into the building.

5.2.3 People and building use

Stationers' Hall is used throughout the year for events, with maximum standing numbers of 410 and seated numbers of 213. Actual numbers are often lower with seated events commonly held for 120 - 150 people. Lunchtime events are commonly held between 11.30am and 4pm, and evening events between 6pm and 11pm. In the summer events are often held in the garden and doors will be left open.¹³

People radiate heat and expire moisture with each individual expiring between 30 and 70 g of moisture per hour, depending on their activity.¹⁴ People will radiate approximately 100w. In a building of this size small numbers of visitors are unlikely to have a significant effect on the internal environment. However, when there

¹³ Pers. Com. Carl Gilbert

¹⁴ TenWolde, Anton; Pilon, Crystal L. 2007. The effect of indoor humidity on water vapour released in homes. *30 Years of Research: Proceedings, Thermal Performance of the Exterior Envelopes of Whole Buildings X: U.S. Department of Energy, Oak Ridge National Laboratory: Buildings X Conference*, Dec. 2-7, 2007. Atlanta, Ga.: American Society for Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 2007: Pages 1-9.

are large events, the direct and heat moisture input could be significant (100 people will give off 10kw of heat). For catered events there will also be moisture and heat input from catering and serving. In addition, large numbers of people require access routes to the exterior to be open for long periods of time allowing significant external air ingress which will destabilise internal microclimate. This is further exacerbated by heating/cooling requirements for comfort. Thus, it can be seen that the simple action of holding an event will destabilise the microclimate placing stress on sensitive materials.

5.2.4 *Visible light and UV radiation*

Because of the orientation of the Great Hall, there will be direct sunlight through the east windows in the morning and through the south windows in the Stock Room and the Court Room for much of the day. The high buildings and the tree in the garden will limit some exposure depending on the time of year. There are blinds on the east windows in the Great Hall and curtains in the Court Room, but these are generally only used when AV presentations are taking place.

Surfaces struck by sunlight will increase in temperature producing both radiant and convective heat increasing the temperature in the surrounding area. Direct sunlight striking a person will naturally also cause an increase in temperature. No monitoring has been undertaken but direct insolation of this type can easily cause a temperature increase of more than 10°C.

Photosensitive materials (generally, but not exclusively organic) are vulnerable and at risk of chemical deterioration as a result of exposure to visible light and UV radiation. Damage can include discolouration (fading) and structural deterioration. Recommended lux and UV values for artefacts vary but are commonly in the region of a maximum of 250 lux for moderately sensitive materials, such as oil paintings and furniture, and 50 lux for sensitive materials, such as watercolours and textiles. The recommended UV level is less than 75 $\mu\text{W}/\text{lm}$.¹⁵

On a bright sunny day, lux values in direct sun can be greater than 60,000 lux. In shaded areas on a bright day values can still be greater than 500 lux. Measurements on the afternoon of the survey, when there was no direct sunlight, showed levels in the region of 550lux by the window and 100-250lux in shaded areas.

There is no UV filtration on windows and so UV levels were commonly in excess of 200 $\mu\text{W}/\text{lm}$.

5.3 *Effect of the Environment on the Fabric and Collection*

The sensitivity of the artworks varies considerably as well their response to the current level of instability in the microclimate. Among the more robust elements of the fabric is the timber panelling, although it is clear from its condition and from some areas of cracking that this has suffered as a result of low and unstable relative humidity caused by high levels of heating, particularly in close proximity to the radiators. It is understood that water ingress has also caused damage in the past.¹⁶ Lower levels of movement in the timber may also be sufficient to cause delamination and flaking of the painted lettering, even when timber cracking does not occur.

The silverware and plate in the Great Hall is relatively robust but is still subject to chemical deterioration were poor conditions to occur. The fact that the items are housed in a display cabinet will provide an increased level of short term buffering between ambient conditions and display conditions.

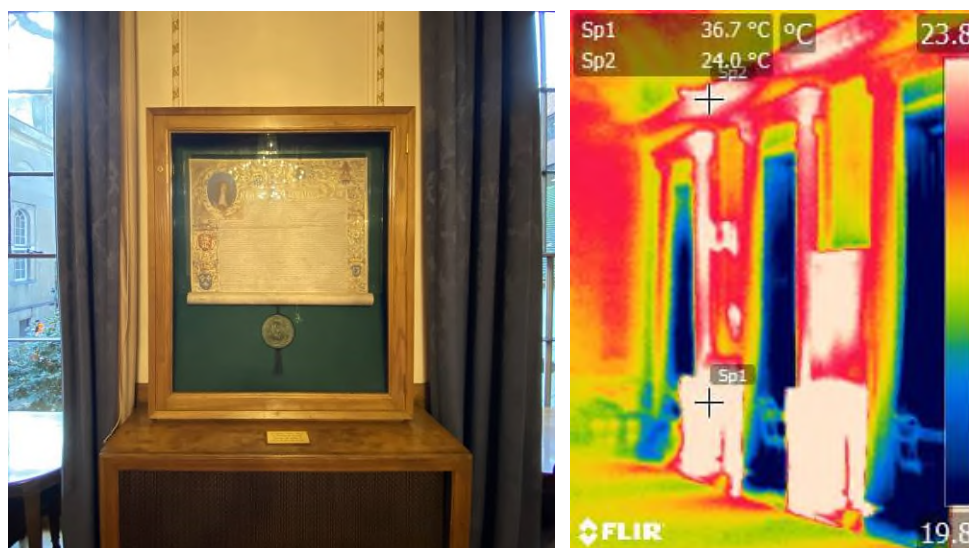
¹⁵ Gary Thompson, *The Museum Environment*, 2nd Ed. 1994. And CIE 157: 2004, Technical Report, Control of Damage to Museum Objects by Optical Radiation.

¹⁶ Pers. Com. Giles Fagan

Textiles, such as those used for the banners are inherently responsive to environmental instability with fibres expanding and contracting in response to changes in relative humidity (and temperature). Over time this can cause distortion and failure. The fibres and the organic dyes are also vulnerable to exposure to visible light and UV radiation. However, the banners on open display appear to be relatively modern and so the long term risk might be regarded as acceptable.

The one textile of high significance is the swallow tailed pennant on the west wall. It was not possible to examine this in close proximity but through binoculars it appeared that there was some distortion and paint loss. However, as it is contained within a glazed frame the microclimate surrounding the textile will have increased short term buffering from the ambient conditions, which will offer an increased level of protection. The historic fibres and dyes on the pennant are likely to be more vulnerable to visible light and UV exposure, but the location is such that its exposure to direct sunlight appears to be unlikely.

Most of the canvas paintings that were observed appeared to be in relatively good condition and are mostly hung in locations away from radiators. This will reduce the stress on the canvas and therefore the tendency to deform in response to fluctuating environmental conditions resulting in delamination and flaking from the more rigid and brittle paint layer. However, paintings of this type are inherently responsive to microclimatic variations and, were conditions to be destabilised further, deterioration could well occur.



Figures 54 & 55. Detail of the charter hung over the radiator and IRT image showing heat flowing over the charter case.

One of the most sensitive artefacts is the charter displayed in the Court Room. Although this is within a glazed frame, it is hung directly over a heating unit and it is likely that the fluctuations in temperature and relative humidity that this causes have led to the delamination and flaking of some of the painted details. It is recommended that the charter is relocated or that the heating unit immediately below it is deactivated.

6.0 PROPOSED AIR CONDITIONING

6.1 Concept

The intention of the proposed air conditioning project is to introduce an air cooling system into the Great Hall and adjacent rooms. The stated aim of this system is to reduce the air temperature to provide comfort cooling during events where the ambient temperature rises to uncomfortable levels. In preliminary modelling this has been defined as being above 25°C.¹⁷

¹⁷ Gordon Macmillan, Method Consulting, technical note 18th November 2019.

There is a concern that by inducing greater temperature fluctuations for thermal comfort, RH may be destabilised in a way which would have a deleterious effect on the sensitive elements of the building envelope and collection.

6.2 Design

The full design of the proposed system had yet to be developed at the time of this survey but the outline designs includes fan coil units in the location of the current perimeter radiators in the Great Hall, with external chiller units. Air would be recirculated rather than drawn from the exterior. No humidification/dehumidification facility is included.

6.3 Risk

As demonstrated above, all of the sensitive artefacts and architectural surfaces are vulnerable, to a greater or lesser extent, from hygral instability. In other words, the larger the fluctuation in RH the greater the stress on the sensitive materials, particularly those which are hygroscopic such as timber and textiles. If stresses are extreme or regular this can lead to immediate or cumulative failure, such as timber cracking or paint flaking.

Irrespective of temperature, the moisture content (absolute humidity – AH) of external air is far more unstable than internal air. Therefore, if external air is introduced to the interior without modification, it will destabilise the internal AH and RH. In effect it reduces the passive ability of the building to buffer internal/external conditions just as would be the case if external doors and windows were to be left open. Although this is not currently part of the design, this could occur if supply air for the new mechanical systems were to be drawn from the exterior. Destabilisation of this type would cause additional stress on hygroscopic materials increasing their rate of deterioration.

The current fan extraction system, although inefficient, can encourage external infiltration by creating mild negative pressure. However, because the air is drawn through other parts of the building, where some equilibration has already taken place, the deleterious effect is likely to be limited.

RH is a function of absolute humidity (AH) and temperature. Therefore, changes in temperature, either by heating or cooling, if implemented without changes in moisture content, also cause the RH to vary. Again, if variations are significant, or constant, this will increase stresses in sensitive materials leading to failure.

6.4 Approaches to Control

In a periodically heated historic building such as Stationers' Hall, environmental conditions will always have been unstable and, as a result, the type of materials displayed will have been chosen taking into account their tolerance of these practical and day to day conditions. Therefore, it is not necessary to provide museum level environmental conditions to maintain a safe microclimate for the fabric and artefacts, simply to recognise and avoid actions which would destabilise and worsen conditions. To this end, the aim should be to maintain the stability of RH and temperature, while managing comfort conditions.

In terms of temperature, a control strategy should be developed to maintain ambient temperature within a particular band at all times of day and night in order to avoid sudden and significant periods of heating and cooling. In an unsealed building of this type seasonal variations will occur, but these should be slowly managed rather than suddenly corrected.

Measures should also be put in place to manage heat increase associated with solar gain using existing blinds and curtains. Traditionally, in historic buildings, systems of this type were commonly used to maintain coolness

during periods of bright sunlight. However, with the development of mechanical cooling, this practice became less fashionable, but is now being more commonly employed as low-energy/low technology environmental control approaches are once again gaining interest. In practical terms this means that, during the summer, prior to events, curtains should be kept closed in order to minimise internal heating from solar radiation. Consideration should also be given to the use of light control blinds to minimise direct sunlight during daytime events.

The RH, which is the principle risk factor for artefacts, will respond to temperature change, as well as variations in air moisture content resulting from ingress of external air and moisture input from people and catering mechanisms. During events, moisture input from people in conjunction with mechanical cooling has the potential to cause a significant increase in RH, possibly well above external conditions. Therefore, the use of the extraction system currently in place has the potential benefit of drawing in air from other parts of the building, which will have been conditioned to some extent by passive heating/cooling from the building fabric, as well as absorption/desorption of moisture from the porous structure. An assessment should be made of the flow rate of the current system and whether conditions could be improved with an increase in the level of air exchange. The possibility of employing humidistat control on the extraction system should also be investigated.

Comfort involves many factors as well as ambient temperature, one of which is air movement. In conjunction with the high level extraction, consideration should be given to the design of the fan coil units to see whether low level air movement could be generated irrespective of temperature, in order to mitigate discomfort. This requires a careful balance to be struck between those in close proximity to the fan units and those in the centre of the room. As this would involve only a change in airflow, rather than temperature and humidity, the effect on fabric and artefacts, as long as they are not in the direct flow path, should be minimal.

7.0 DISCUSSION

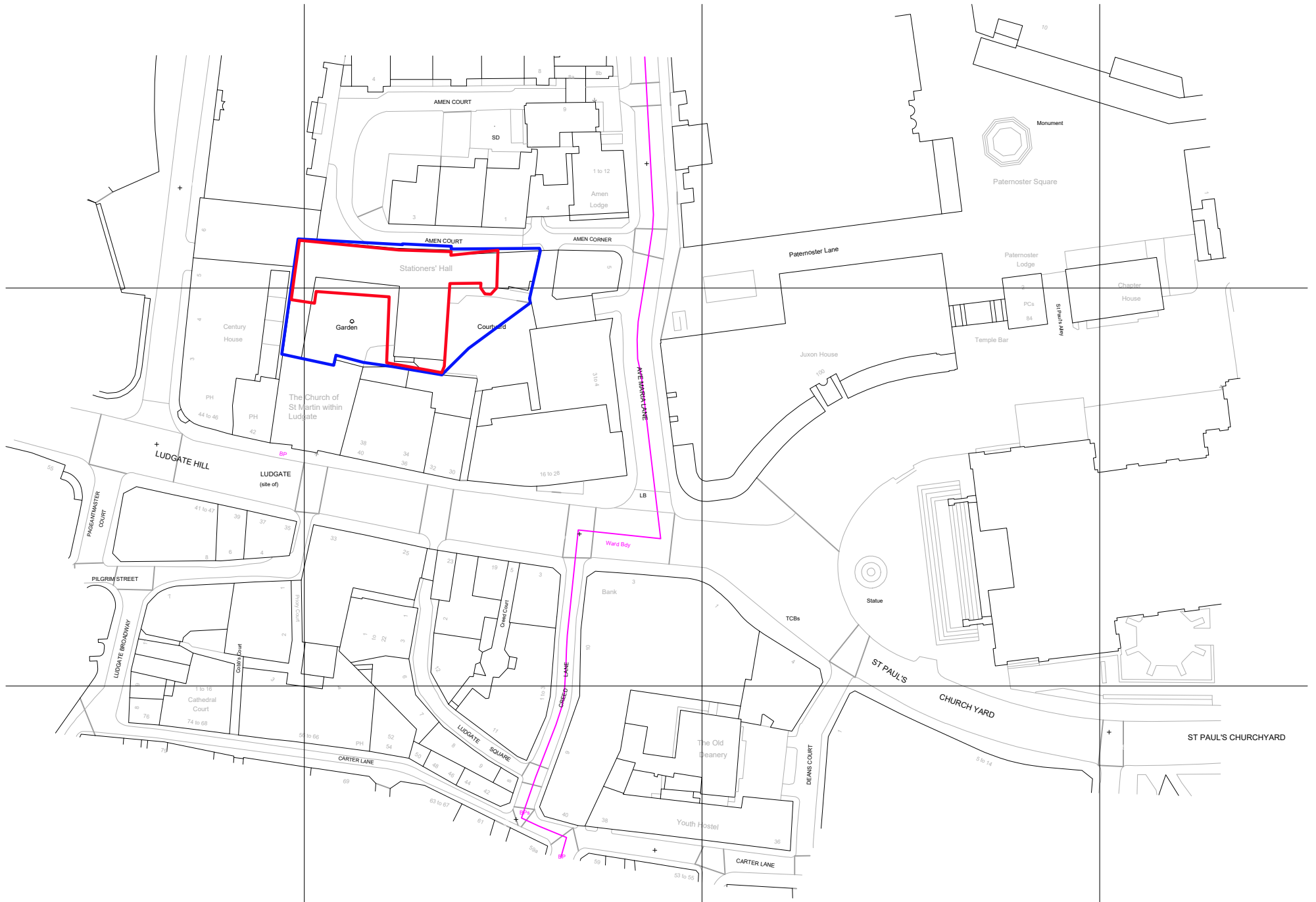
Both the architectural fabric and the collection at Stationers' Hall are of considerable significance. However, because of the way in which the building has developed and is being used, most of the pieces on open display are comparatively robust and will tolerate, within reason, a relatively wide range of environmental conditions. Nevertheless, much of the material is hygroscopic and responds to fluctuations in relative humidity so that extreme or continual microclimatic instability is likely, in the longer term, to lead either to sudden failure or cumulative deterioration. Therefore, the conservation aim of the environmental management of the building should be to provide stable conditions within an accepted band of temperature and humidity, avoiding extreme or constant fluctuation.

However, Stationers' Hall is a commercial building rather than a museum and so it is important to develop a strategy which will allow the hospitality and commercial events required for the operation of the building with an acceptable level of comfort for users, while at same time maintaining environmental conditions suitable for the conservation of the sensitive elements of the historic fabric and collection.

As part of an integrated system of both active and passive measures, the proposed air cooling system has the ability to increase thermal comfort by reducing extreme temperatures and, if managed correctly, could also provide environmental conditions conducive to the conservation of the historic fabric and artefacts. Key considerations are summarised below:




- The greatest risk to the historic fabric and artefacts is from water ingress both immediately and during the subsequent drying process. Therefore, a high level of inspection and maintenance should be regarded as a prerequisite for successful environmental management. This includes the effective management of the plane tree which is the cause of a significant risk of blockage to the rainwater disposal system.

- The leak noted in the archives should be investigated and, if confirmed to be accurate, repaired as soon as possible.
- Calculation should be carried out to establish the capacity of the current rainwater disposal system and to evaluate whether it will need to be increased due to changes in rainfall patterns.
- A more active system of management of curtains and blinds should be implemented during the summer in order to reduce the effect of solar gain before hospitality events. Consideration should also be given to the use of light filter blinds reducing solar gain during events.
- Heating and cooling systems, including the proposed new fan coil systems, should be used to maintain a relatively stable temperature at all times, rather than to enable sudden increase or decrease of temperature during events. There will be some seasonal variation, but this will be relatively slow and the impact on the sensitive fabric is likely to be limited.
- Ventilation to the exterior should be minimised in order to avoid the ingress of uncontrolled and unstable air. Where air exchange or air movement is required, the supply air should be from adjacent spaces where some level of control has already been established by the passive buffering offered by the building envelope.
- The existing air extraction system in the Great Hall will draw in air from adjacent internal spaces where some level of control has already been established. The use of extraction of this type during events where AH and RH will increase due to the input of water vapour from people and catering is likely to be beneficial in maintaining more stable RH conditions.
- The lack of insulation in the roof allows loss of heat during winter and a greater impact of solar gain in the summer increasing the temperature of the ceiling and air mass below. Increasing the thermal performance of the structure using insulation would reduce these two factors, although the details would need to be carefully assessed in order to avoid complications with condensation.
- Encouraging air movement at low level where people are located is also likely to increase thermal comfort. Consideration should be given to whether the fan call units can be used to provide more targeted air movement, rather than simply air mixing with the overall space.
- The condition of the sensitive building fabric and collection should be carefully monitored by suitably qualified conservators, following the implementation of any new heating and cooling system and, if deterioration of the fabric or artefacts is observed, the control strategy should be reassessed. In the short term, the condition of the charter should be reviewed by a manuscript conservator and the charter should either be relocated, or the heating unit immediately below it should be deactivated.

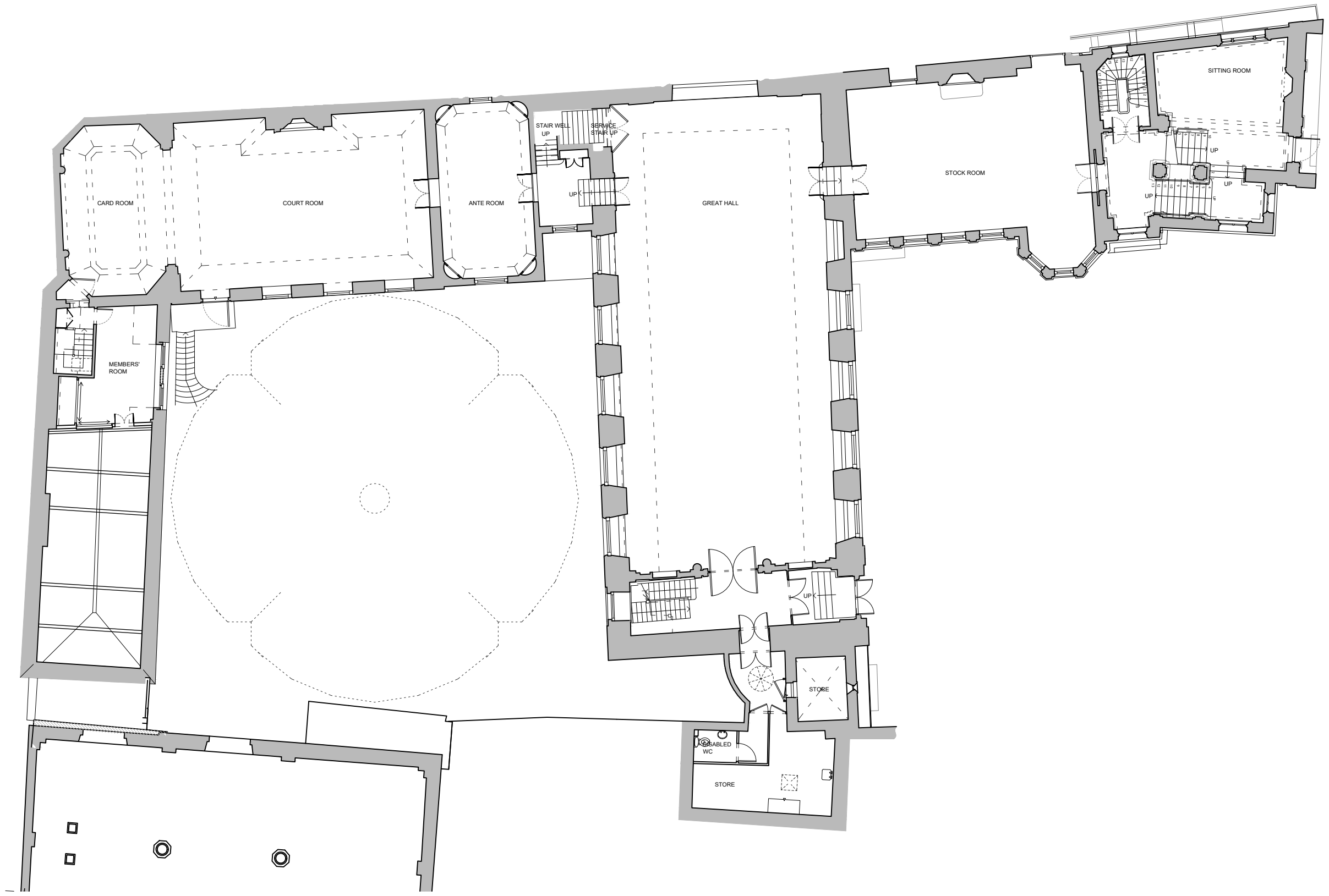


Site ownership

Building subject to the application

DRAWING STATUS			NOTES			KEY			REVISIONS					Project																	
<p>S : Survey = Survey</p> <p>O : Outline = Outline/Scheme Drawings for proposals, budgets etc.</p> <p>D : Development = Final Design drawings for approvals, billing, etc.</p> <p>P : Planning = Drawings issued for Planning, Listed Building, or Local Authority Consents</p> <p>C : Construction = Fully developed drawings issued under instruction for construction</p> <p>B : Building Control</p> <p>T : Tender</p> <p>I : Information only</p>			<p>Do not scale.</p> <p>Contractor or subcontractor to check all dimensions on site before building or manufacture.</p> <p>All drawings to be read in conjunction with all other professional drawings and specification.</p> <p>Based on surveys carried out by : ARENA Property Services</p> <p>East block has not been surveyed</p>											<p>Stationers' Hall</p> <p>SH 180</p> <table><tr><td>Title</td><td>Scale @ A1</td><td>Scale @ A3</td><td>Sheet</td></tr><tr><td>Existing Location Plan</td><td>1:1250</td><td></td><td>P</td></tr><tr><td>Date</td><td>002</td><td></td><td>Revision</td></tr><tr><td>November 2018</td><td></td><td></td><td>-</td></tr></table> <div><p>PEREGRINE BRYAN ARCHITECTURE & BUILDING CONSERVATION</p><p>The Courtyard, Fulham Palace, Bishop's Avenue, London SW6 4 T: 020 7384 2111. F: 020 7384 2112. E: peregrine@bryant.net</p></div>		Title	Scale @ A1	Scale @ A3	Sheet	Existing Location Plan	1:1250		P	Date	002		Revision	November 2018			-
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NOTES

Do not scale.

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Based on surveys carried out by : ARENA Property Services

East block has not been surveyed

KEY

REVISIONS

rev	date	notes
B	10.05.2019	Planning Issue
A	21.12.18	General Updates
*	11.10.18	First Issue

rev	date	notes

Stationers' Hall

SH 180

Draw: Existing First Floor Plan	Scale @ A1: 1:100	Scale @ A3: 1:200	Issue: P
Date: DEC 2018	Drawn by: 007	Section: B	

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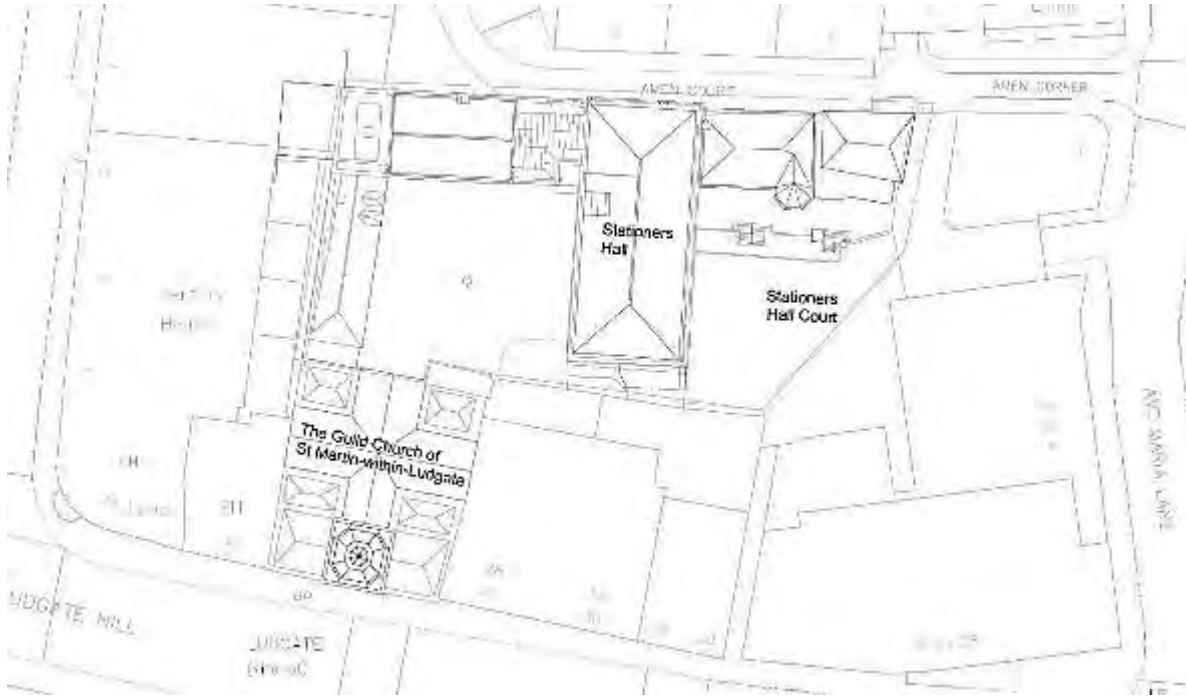
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Stationers' Hall Link Building and Anteroom: Heritage Statement



Frontispiece: C17 Screen to south of Stationers' Hall, 1928 (England's Places, Card reference no 3216/067)



Site under consideration © Ordnance Survey

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Planning Issue V5: 07/05/19

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1.0 Summary

Stationers' Hall is a highly significant historic asset located within the heart of the City of London, near St Paul's Cathedral. It comprises a series of interconnected buildings arranged around two open courtyards. The eastern courtyard, Stationers' Hall Court, is publicly accessible from Ludgate Hill along a narrow alley, or from Ave Maria Lane, through a vehicle entrance. The western courtyard is a private garden.

The site is located within St Paul's Cathedral Conservation Area, a designation which has evolved to cover some 23 hectares surrounding Wren's cathedral. This was most recently amended on 14th June 2007.

The Stationers' Hall complex is a series of interlinked buildings, classified as both a Grade I Listing asset and as a Scheduled Monument. It is intrinsically linked with two further historic assets of great significance: remains of the London Roman Wall to the west of the site (Scheduled Monument) and the Church of St Martin Ludgate (Grade I), which partly delineates the western courtyard.

To the north, 1-3 Amen Court (a late-C17 row of houses, listed at Grade II*) directly overlooks the Stationers' buildings. To the south, 34-40 Ludgate Hill stands adjacent to the Church of St Martin Ludgate, its rear elevation partially overlooking the Hall and its Garden.

Full List Entries can be found in **Appendix 1** and a Site Context Map within **Appendix 3**.

This document assesses the impact of a proposed new Link Building within the western range of the Stationers' Hall complex; a project which involves part-demolition of an existing 1950s building and construction anew within the same location. Potential impact upon extant historic fabric, Context and Setting are all assessed; weighed against profound improvements to Accessibility and Administrative space within this highly significant historic asset.

This work, in turn, forms part of a broader project which proposes closer integration of the Church of St Martin Ludgate with Stationers' Hall, one which will bolster both public use and contextual relationship between these remarkable assets.

Current proposals are considered to constitute less-than significant harm, which can be balanced positively against both pronounced *Public Benefits* of enabling wheelchair access throughout the site and expansion of the Company's administrative provision, which will continue to support this remarkable asset well into the twenty-first century.

2.0 Legislative Background

2.1 Planning (Listed Building & Conservation Areas) Act 1990

Sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990 impose a statutory duty upon local planning authorities to consider the impact of any proposals made towards listed buildings and conservation areas.

Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 states:

'...in considering whether to grant permission...for development which affects a listed building or its setting, the local planning authority, or as the case may be the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'.

Similarly, section 72(1) of the above Act states:

'...with respect to any...buildings or other land in a conservation area, special attention shall be paid to the desirability of preserving or enhancing the character or appearance of a conservation area'.

2.2 The National Planning Policy Framework (2018)

Any proposals for consent relating to heritage assets are subject to the policies of The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2018). This sets out the Government's planning policies for England and how these are expected to be applied. With regard to 'Conserving and enhancing the historic environment', the framework requires proposals relating to heritage assets to be justified and an explanation of their effect on the heritage asset's significance provided.

With particular regard to heritage assets, the NPPF states:

189. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

190. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.

191. Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision.

192. In determining applications, local planning authorities should take account of:

a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;

b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

c) the desirability of new development making a positive contribution to local character and distinctiveness.

193. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

194. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;

b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

195. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

a) the nature of the heritage asset prevents all reasonable uses of the site; and

b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and

c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and

d) the harm or loss is outweighed by the benefit of bringing the site back into use.

196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

197. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

198. Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

199. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

2.3 Local Authority Policy

City of London Local Plan (Everett, January 2015) provides guidance on Policies relating to both Visitors, Arts and Culture and on conservation of the historic built environment:

Policy DM 10.8 Access and inclusive design

To achieve an environment that meets the highest standards of accessibility and inclusive design in all developments (both new and refurbished), open spaces and streets, ensuring that the City of London is:

- inclusive and safe for all who wish to use it, regardless of disability, age, gender, ethnicity, faith or economic circumstance;
- convenient and welcoming with no disabling barriers, ensuring that everyone can experience independence without undue effort, separation or special treatment;
- responsive to the needs of all users who visit, work or live in the City, whilst recognising that one solution might not work for all.

Core Strategic Policy CS11: Visitors, Arts and Culture

To maintain and enhance the City's contribution to London's world-class cultural status and to enable the City's communities to access a range of arts, heritage and cultural experiences, in accordance with the City Corporation's Visitor Strategy, by:

1. Providing, supporting and further developing a wide range of cultural facilities, including the cultural quarter focussed on the Barbican complex, the Guildhall School of Music & Drama, the Guildhall Art Gallery and City libraries and encouraging and promoting other facilities including the Museum of London. Encouraging the use of places of worship, livery halls and other venues, including the Bridewell Theatre, for cultural events alongside their primary uses.
2. Maintaining the City's existing collection of public art and culturally significant objects, pursuing opportunities to commission new, high quality pieces in appropriate locations.
3. Protecting existing cultural facilities where they are needed, ensuring there is no net loss of cultural facilities in the City.
4. Providing visitor information, increasing awareness of the City's cultural and heritage assets and encouraging the City's communities and visitors to make full use of its cultural and heritage facilities.
5. Allowing hotel development where it supports the primary business or cultural role of the City and refusing new hotels where they would compromise the City's business function or the potential for future business growth. Hotels should not be located where they would create amenity problems for existing residential areas.

Core Strategic Policy CS12: Historic Environment

To conserve or enhance the significance of the City's heritage assets and their settings, and provide an attractive environment for the City's communities and visitors, by:

1. Safeguarding the City's listed buildings and their settings, while allowing appropriate adaptation and new uses.
2. Preserving and enhancing the distinctive character and appearance of the City's conservation areas, while allowing sympathetic development within them.

3. Protecting and promoting the evaluation and assessment of the City's ancient monuments and archaeological remains and their settings, including the interpretation and publication of results of archaeological investigations.
4. Safeguarding the character and setting of the City's gardens of special historic interest.
5. Preserving and, where appropriate, seeking to enhance the Outstanding Universal Value, architectural and historic significance, authenticity and integrity of the Tower of London World Heritage Site and its local setting.

Policy DM 12.2 Development in conservation areas

1. Development in conservation areas will only be permitted if it preserves and enhances the character or appearance of the conservation area.
2. The loss of heritage assets that make a positive contribution to the character or appearance of a conservation area will be resisted.
3. Where permission is granted for the demolition of a building in a conservation area, conditions will be imposed preventing demolition commencing prior to the approval of detailed plans of any replacement building, and ensuring that the developer has secured the implementation of the construction of the replacement building.

Policy DM 12.3 Listed buildings

1. To resist the demolition of listed buildings.
2. To grant consent for the alteration or change of use of a listed building only where this would not detract from its special architectural or historic interest, character and significance or its setting.

Policy DM 12.4 Ancient monuments and archaeology

1. To require planning applications which involve excavation or ground works on sites of archaeological potential to be accompanied by an archaeological assessment and evaluation of the site, including the impact of the proposed development.
2. To preserve, protect, safeguard and enhance archaeological monuments, remains and their settings in development, and to seek a public display and interpretation, where appropriate.
3. To require proper investigation and recording of archaeological remains as an integral part of a development programme, and publication and archiving of results to advance understanding.

3.0 Historical Background

Historical development of Stationers' Hall has been covered in detail elsewhere, within both '*Stationers' Hall: Statement of Significance*' (**Appendix 4**) and '*Archive material on alterations and re-structuring of Stationers' Hall*' (Frendo, 2018) (**Appendix 2**). Further, relevant history is detailed within this document.

4.0 Significance

Assessment of Significance can be found within '*Stationers' Hall Statement of Significance*' (April 2016), which accompanies this application (**Appendix 4**).

It should be noted that, since completion of the aforementioned document, the Admin Block has been converted into a new Archive store for the Company (Scheduled Monument Consent SMC011216, Approved 01/12/16).

5.0 Assessment of Proposals and Potential Impact

To be read in conjunction with:

- Alan Baxter Associates (April, 2016). *Stationers' Hall: Statement of Significance*. (**Appendix 4**)
- Frendo, R. (2018). *Archive material on alterations and re-structuring of Stationers' Hall* (**Appendix 2**)
- EX Drawings **180 SH 001 -> 050**
- Demolition Drawings **180 SH 140 -> 145**
- PR Drawings **180 SH 105 -> 137**

5.1 The Hall: Past material Alteration

The following considers only those areas affected by the proposed works.

5.1.1 The Documentary Evidence

The earliest plan of the extant, late-seventeenth century (C17) Hall was drawn by that renowned surveyor William Leybourn, in 1674 (**Figure 1**). Though internal arrangements are not shown in any detail (screen to south, window openings etc), Leybourn charts internal doorways throughout,¹ suggesting no interconnection between north-west 'Lobby' (Anteroom) and Hall existed at this time.

It can be assumed however, that the extant screen to the south (see **Frontispiece**) and much of the bolection-moulded panelling was original to 1674 construction. Typical of the medieval *Open Hall*, a *Screens* cross-passage to the south (with musicians' gallery above) was answered by a raised *Dais* to the 'High End' of the space, as demonstrated by Thornbury (1878):

"Like most ancient halls, it has a raised dais, or haut place, which is occupied by the Court table at the two great dinners in August and November. On the wall, above the wainscoting that has glowed red with the reflection of many a bumper of generous wine, are hung in decorous state the pavises or shields of arms of members of the court."

This *Dais* is clearly shown within late-C17 drawings (**Figure 2**), where original Court Room and Anteroom are also evident (as are the southern screen and original cross-mullion windows). By this date, it is clear that the high end of the hall is (at least proposed) for access from both east and west, thus potentially requiring alteration to any original panelling and demolition of original masonry.²

By 1754, Robinson had suggested "...how the Court Room might be improved and that the same might be done by carrying the front upon an arcade into the Garden seven feet six inches laying both

¹ Including throughout the Inner and Outer Court.

² It should be noted that this drawing, though pre-dating Mylne's 1801 remodelling of the hall, shows (an excessive) 6 windows to each elevation (see 5.4.3.1).

rooms into one and raising the ceiling" (Frendo, 2018, p.5), though it wasn't until March 1757 that any agreement was drawn up for the works.

Accompanying drawings (**Figure 3**) show the extended Court Room elevation, carried into the garden upon an arcade. Notably, a much-enlarged opening between revised Link Building (Anteroom) and Hall is also shown (**Figure 4**). Here, the pier of brickwork between final (now Cranmer) window and doorway is shown at five-foot-wide (as today), indicating the opening was formerly much extended to the north; some 8-foot wide. Since Robinson fulfilled his Court Room contract, there is no reason to suppose this extensive route into the Hall wasn't in place during the second half of the C18. If this was indeed the case, further C17 masonry must have been lost at this time and the Hall panelling further modified to suit.

By 1800-01, the Hall was undergoing extensive remodelling, overseen by Robert Mylne. His work included remodelling of the Hall's principal elevation, with alteration of the rectangular windows to the east; raised with new semi-circular heads and sash frames. Though panelling to the east was left unaffected, sill levels were also dropped to the western elevation; resulting in loss of masonry, internal joinery and a compromised appearance (see **5.2**). The north window was also installed at this date (**Figure 5**), requiring further alteration of both panelling and internal finishes to this end of the Hall.

The Lobby too was enlarged '*...with the addition of a water Closet*' (which presumably resulted in reduction of Robinson's large opening between Lobby and Hall) and left that arrangement seen within the plan of c.1870 (**Figure 6**).

1835 Mylne's son, William Chadwell Mylne, oversaw a major extension to the west end of the Court Room with the addition of the Card Room. This building was partially constructed atop the Roman/Medieval wall to the west of the site.

During 1912, Francis Hooper proposed relocation of the kitchens, from Hall basement to Court Room basement. "*Making a new entrance to the Hall*" was also proposed at this time; taken (by ABA, 2016, p.20) as reference to the staircase from basement kitchens to north-east corner of Hall (though Frendo can find no documentary evidence to this effect).³

Extensive bomb damage during the Second World War (**Figure 7 & Figure 8**) resulted in wholesale reconstruction of both Court Room and Anteroom. Fragments of 1757 plasterwork were clearly retained for re-use (including fireplace surround and grand overmantle), and the principal elevation

³ ABA (2016) note that the '*Stairs from old building taken down, repaired and refixed*' during post-war reconstruction and it is assumed they were previously in the same location (**Figure 11**).

was made in faithful recreation of Robinson's Court Room expansion (though it included the later-infilled windows to the Ground Floor). The elevation conceals a modern, reinforced concrete structure behind the façade however (with the hollow-pot floors so common to that era). The Link Building and Anteroom were built entirely anew, with no attempt made to reinstate Mylne's design (see **Figure 9** and Section **5.4.3**).

It is also clear that the basement-Hall steps were certainly in place by this date (**Figure 11**), installation resulting in both demolition of C17 masonry to the north-east corner of the Hall and dramatic modification of the panelling.

Drawings produced for post-war reconstruction of the western wing also show that panelled reveals to the extant opening between Lobby and Hall were (re)formed in C20 material, concealing a portion of brickwork which was also made anew at this time. It seems possible the latter was undertaken in consolidation of Mylne's c.1800 infill to the wider, 1757 Robinson opening (see *Section A-B* in **Figure 10** & see **Figure 11**).

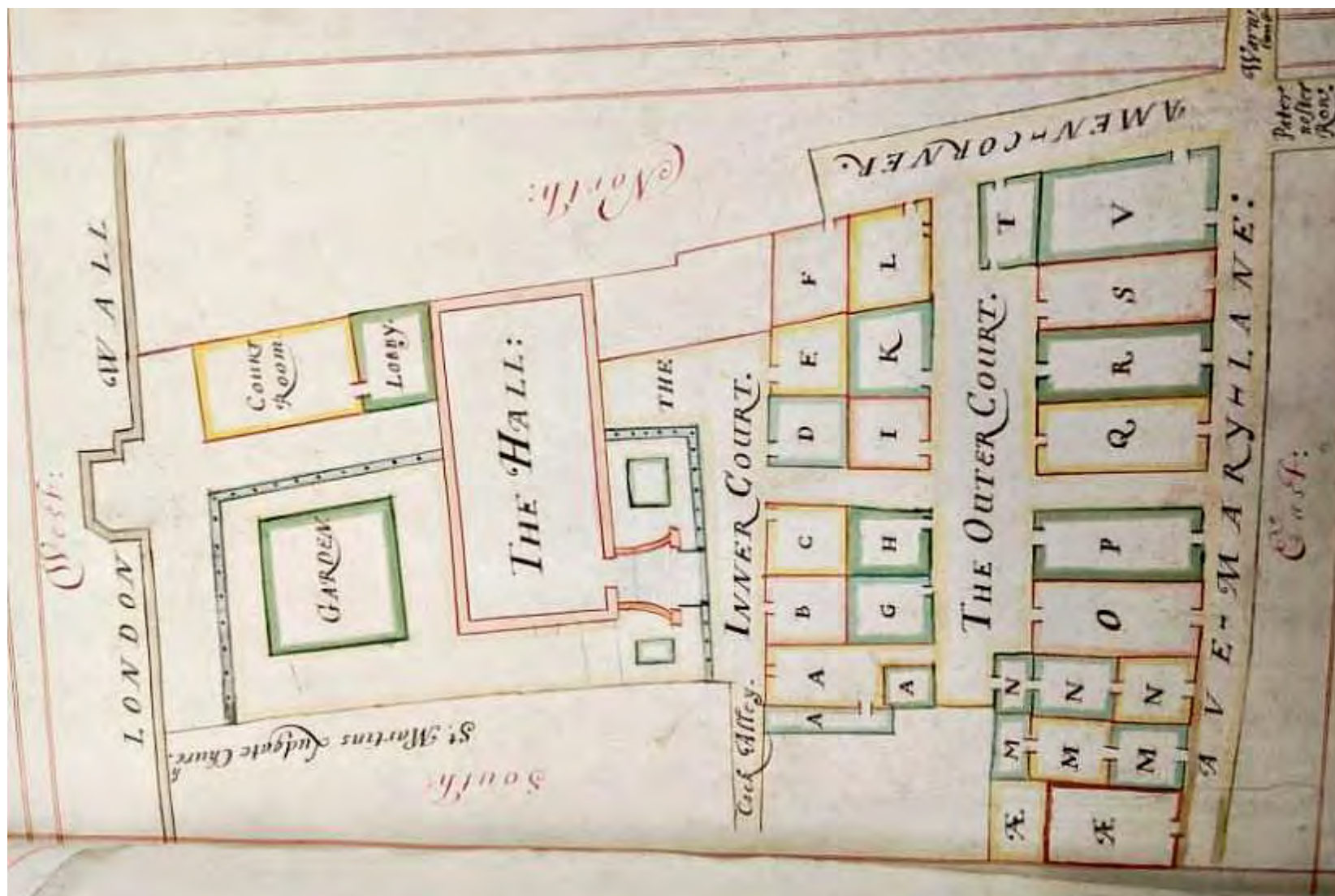


Figure 1: 'A Survey, Both General and Particular; of All the Lands and Tenements, Belonging to the Worshipful Company of Stationers, London, 1674.' By William Leybourn (The Stationers' Company Archive, TSC/1/G/02/01)

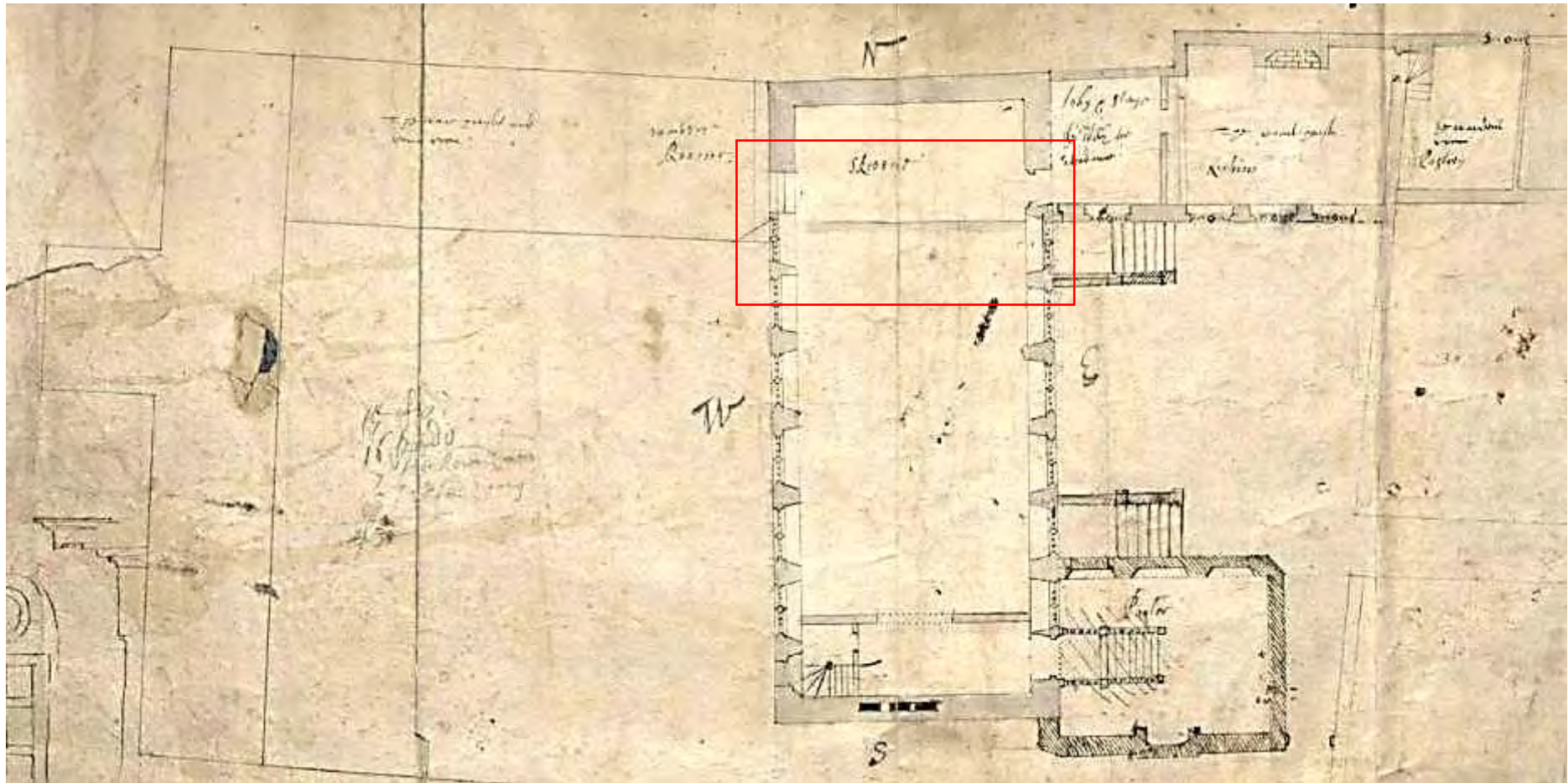


Figure 2: Proposed Hall plan, late-C17 (attributed to 1690/1). Openings from both the Lobby (Anteroom) and the eastern wing are both shown, as is the line of the raised dais to the north of the Hall (Highlighted). Note the cut-back elevation to the much narrower western wing, designed to avoid collision with what appears to be an extra window to the west elevation of the Hall. The Warehouse building is also shown to the west of the Garden and Courtyard (TSC-1-G-06-02-08).

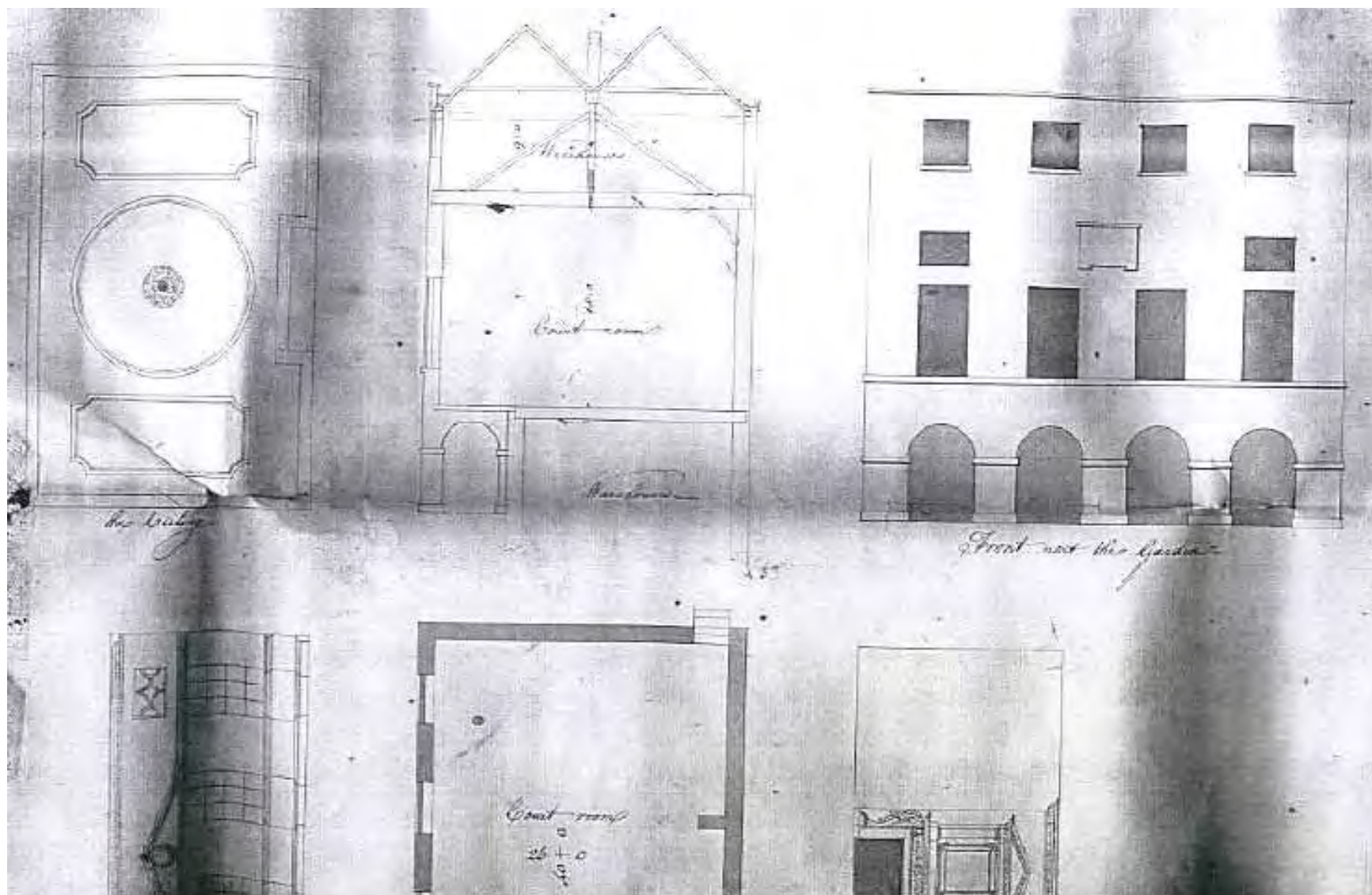


Figure 3: Robinson's proposals for the Court Room, agreed March 1757 (Detail) (TSC/1/G/06/04/01/02).

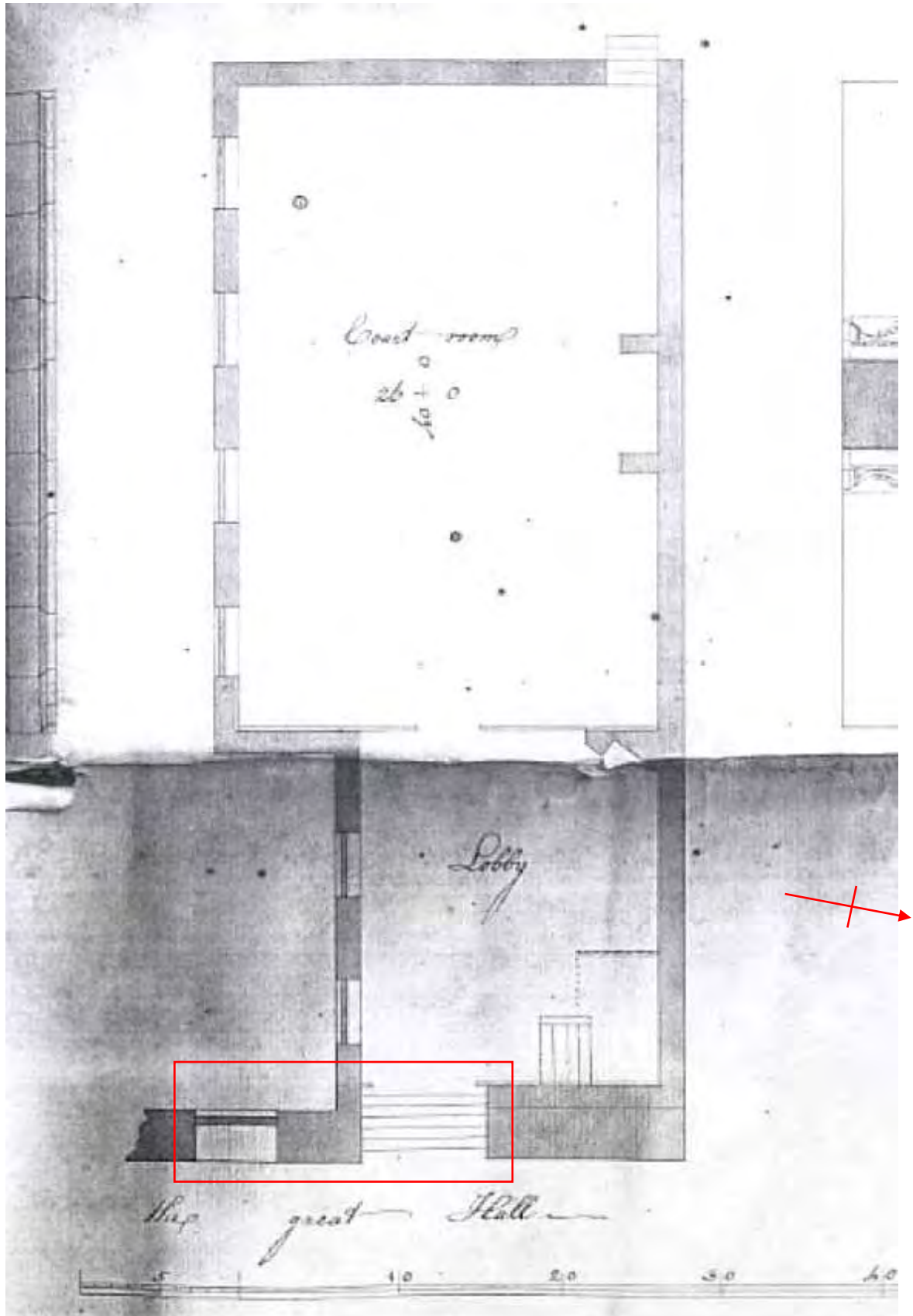


Figure 4: Agreed plans for Enlargement of the Court Room, Robinson, 1757 (detail). Note the larger, 8-foot opening between Anteroom and Hall. The 5-foot pier of brickwork between (now Cranmer) window and doorway still remains in situ. (Highlighted). There is no reason to assume that this work did not take place, though no material evidence is readily apparent (TSC/1/G/06/04/01/02).



Figure 6: c.1870 Plans. Mylne's Lobby arrangement and Stock Room can both be seen, utilising the same access to the Hall as seen today. This work likely reversed Robinson's 1757 enlarged opening between Lobby and Hall (TSC/1/G/06/04/01/51).



Figure 7: Photograph showing courtroom damage, 1941. Note the judicious salvage of fire surround and principal plasterwork elements, including overmantle, cartouche and cornice decorations (Sullivan, 2004, p. 142).



Figure 8: The bomb-damaged Court Room, 1941. Note also the infilled elevations to the Ground Floor and the stopped-up Link Building Windows. The garden comprises of parched grass and little else (Sullivan, 2004, p. 143)

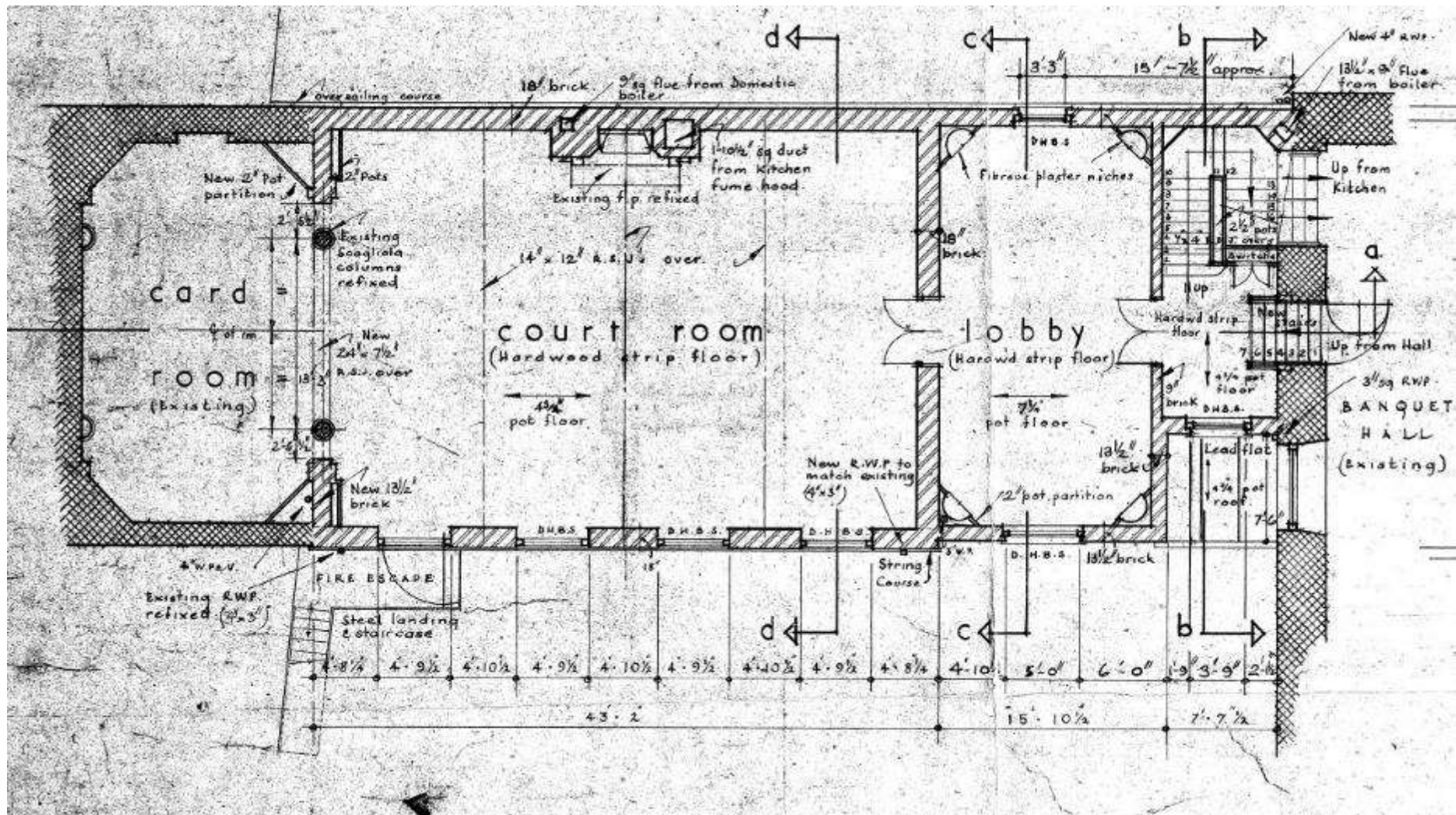


Figure 9: Proposed Drawing for reconstruction of the Court Room and Linking Building, Dawson & Son, 1954. Note the Link Building no longer imitates Mylne's swept-back elevation; the Anteroom is rectangular in form with corner niches (extant).

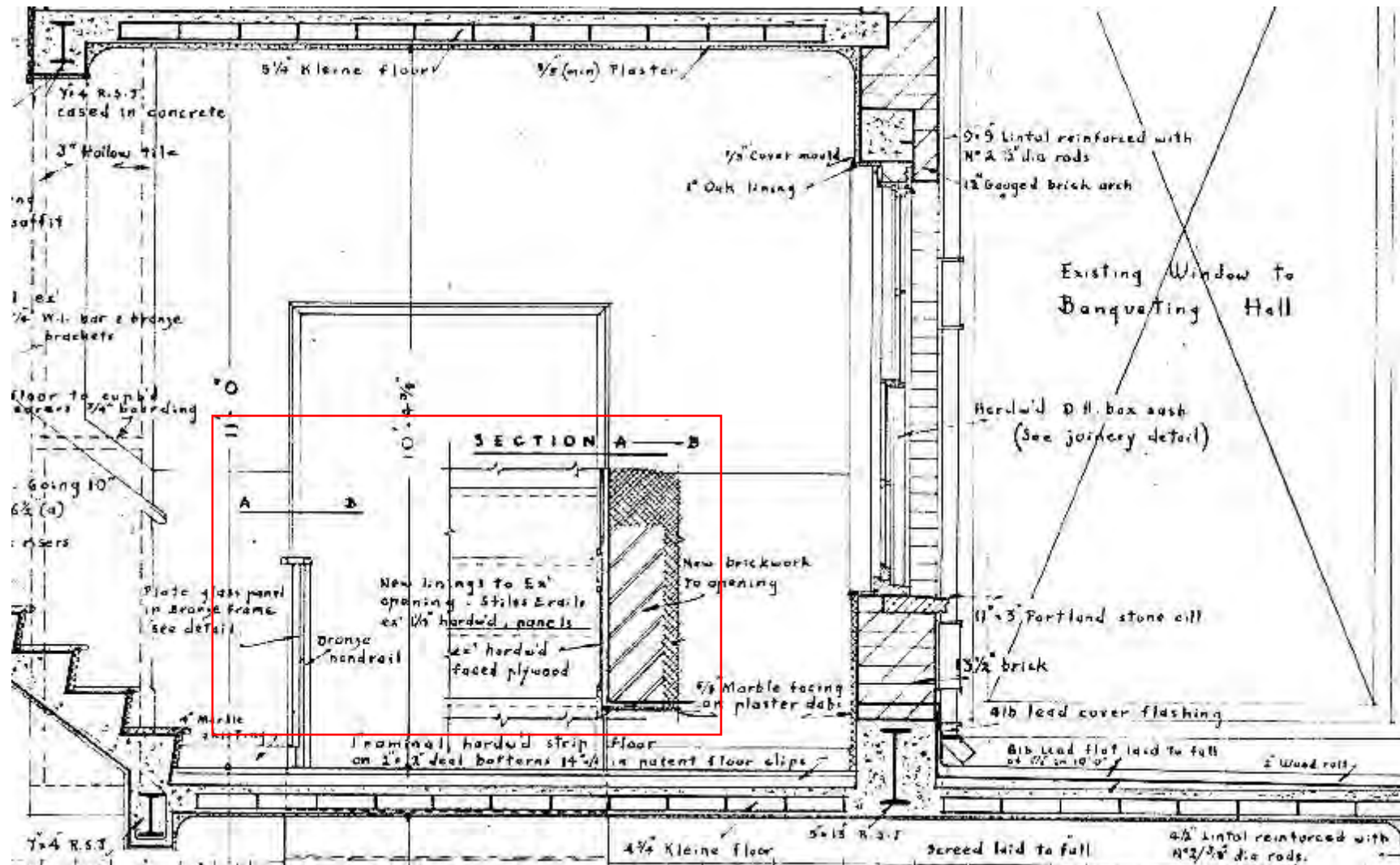


Figure 10: Proposed Stationers' Hall Court Room Block, Henry Dawson, February 1952 (Detail). West face of opening between Lobby (Anteroom) and Hall is shown, with annotation stating 'New Linings to Ex' opening. Stiles and rails ex' 1/4' hardw'd, panels ex' hardw'd faced plywood'. New brickwork to the opening (Section through LHS is drawn on the RHS of the doorway) also indicates reduction or, perhaps more likely, consolidation of Mylne's closing-up.

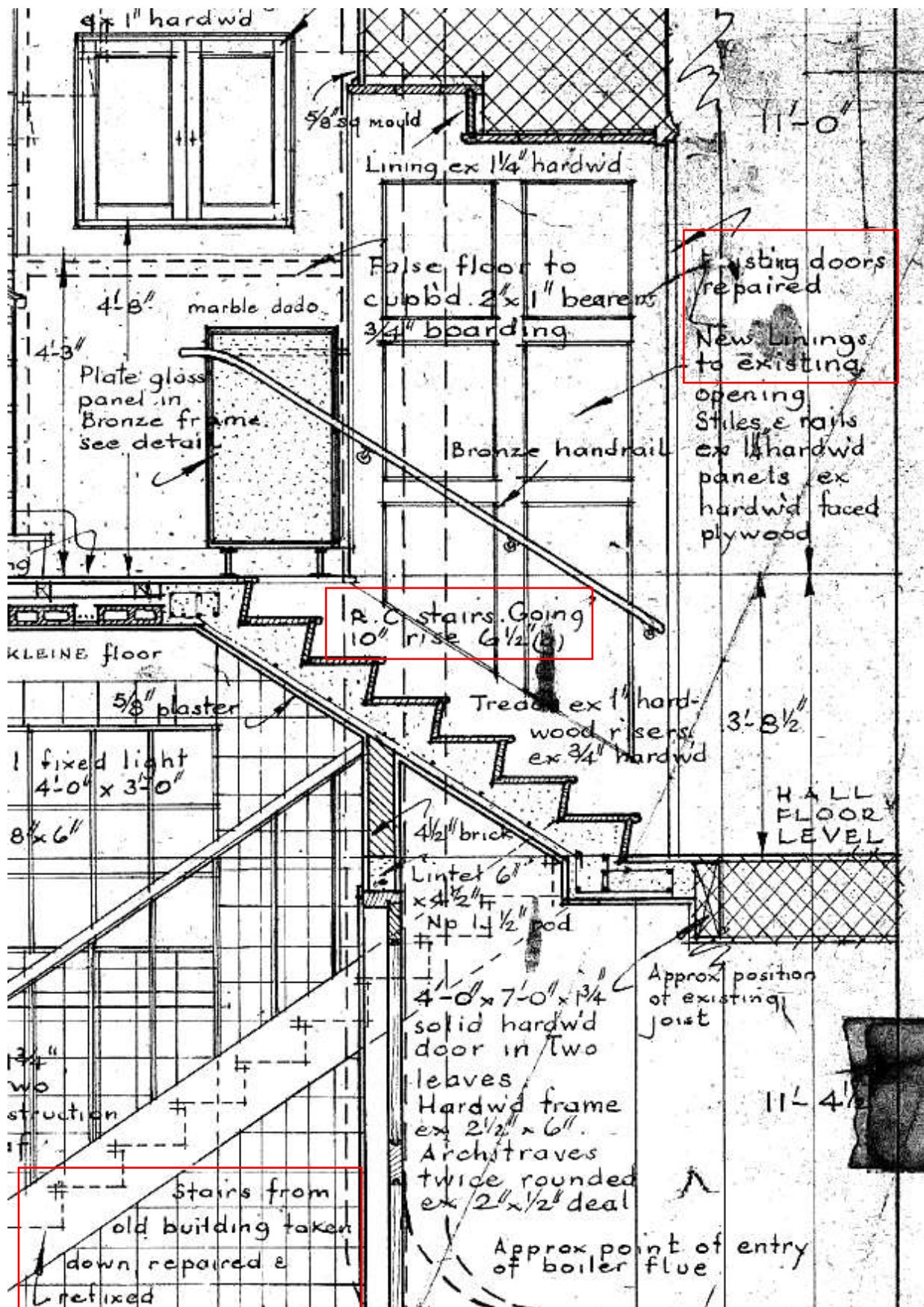


Figure 11: Proposed Stationers' Hall Court Room Block, Henry Dawson, February 1952. Note the 'Existing doors repaired' and 'New linings to existing opening'. The steps are clearly new, formed in reinforced concrete. Stairs from basement to Hall are labelled: 'Stairs from old building taken down, repaired and refixed'.

5.2 Material Evidence

The panelling to the north of the hall, though clearly similar to the south, varies in both height and setting-out (**Figure 12**). One might indeed expect more elaborate design to this ‘high’ end, but it should be noted that skirting to the south is considerably more elaborate. This variation perhaps indicates later modification, resulting from those repeated interventions to the north end of the Hall.

Window adjustments of 1801 certainly led to material changes; lowering those to the west resulted in the loss of internal timber box sills and marginal trimming of panels below (see **Figure 13** and compare with **Figure 14**). What appear to be single leaf shutters (which once corresponded to the lower lights of the mullion windows) have also been permanently fixed back throughout.⁴ The grand, northern window (also 1801), curtains adjacent mullions; clear indication that extant panelling preceded this window and was consequently adjusted to suit.

Removal of the raised Dais, sometime after 1878, presumably required further amendments to the panelling, none of which are immediately evident. Such intervention might explain variation in skirting from north to south (though one would expect this variation to be reversed, to accommodate a raised floor level).

The incongruous, ill-fitting bi-folding doors (which enable access from both sides of the hall) are clearly sourced from elsewhere. Whilst their provenance is unclear, they exhibit subtly different moulding and are likely of late-C17/early-C18 date; vestiges of *L-hinge* or *HL-hinge* hanging still visible within their modified edge (**Figure 15**). Likely introduced following removal of the Dais (post-1878), they were clearly in place by 1952; labelled as ‘*existing doors repaired*’ (see **Figure 11**). It is unclear why these bi-fold doors (apparently formed from re-used panelling) would be so crudely introduced when existing panelling could have been trimmed-out and re-used in situ. If these routes were indeed introduced in the later-C17 (as indicated by **Figure 2**), perhaps there were no doors within their respective openings.

Hooper’s work of 1912 also led to significant alteration. Stair access (from below) to the very north-west corner of the Hall necessitated demolition of C17 masonry and modification of panelling to create a large pair of doors (**Figure 16**).

⁴ The Wardenry, Farley, Wiltshire (1681) was, for example, built with large wooden-mullioned cross-windows. Here, the shutters fit within the mullions rather than passing over them, and the upper lights are un-shuttered.



Figure 12: Panelling to the north-west of Stationers' Hall. The panel to the RHS of the Cranmer window affords transition between the two panelling types, higher skirting to the south off the hall achieved through a reduced lower panel (highlighted)



Figure 13: Missing internal sill boxing beneath the Cranmer window. Trimmed panel rail with section through mortice/tenon clearly visible.



Figure 14: Correct arrangement of internal sill, east side of Hall



Figure 15: H-L (or H-Hinge) shadow still visible to the bi-folding doors. Later strip applied to edge to modify size.



Figure 16: Concealed door within panelling to the north-west corner. Skirting and dado rails have been curtailed hinges inserted to allow for concealed service access from the kitchens below. The panel to the right also opens, trimmed out through the transom just visible to top-right.

5.2.1 Summary

Though documentary evidence clearly suggests a wider opening between Anteroom and Hall during the period 1757-c.1800, such changes are not immediately apparent within the fabric. Neither is there any evidence to suggest that panelling to the northern end of the Hall is a wholesale, later insertion. However, variation in setting-out and clear material adjustments indicate numerous modifications after 1674, undertaken to accommodate both introduction and adjustment of windows and doors, and to make-good on post-1878 removal of the raised Dais.

Though the Hall has seen numerous changes over time, it is the western range (Court Room and Link Building) were most-altered historically (prior to complete reconstruction in the C20). Of particular note, is that long-standing (and repeated) dissatisfaction with both form and function of the Link Building between Court Room and Hall. It has certainly been the most altered and adjusted structure within the complex, with substantial revisions of its form undertaken in 1757, 1800-01 and 1954.

Such dissatisfaction is clearly noted within the records. In 1757, the Committee concluded:

“...that the Lobby was also very inconvenient to the Renter Wardens and to the Members of the Company and others whose attendance was necessary for the dispatch of their business at the monthly Courts of this Company.” (Frendo, 2018, p. 10)

Robinson clearly did little to solve the problem, for in 1805, the issue was once again discussed, this time in relation to Mylne’s proposed alterations of Robinson’s work:

“[The Committee] next considered the plan for a Water Closet from the Lobby, which might be accomplished at the expense of £100, but having repeated complaints of the smallness of the Lobby, they were of opinion that it would be more desirable to enlarge the same with the addition of the Water Closet...” (ibid).

See Chapter 5.3 for further discussion.

5.3 Material Impact of Proposed Works

5.3.1 The Hall

Though the Hall is principally late-C17 in date, it incorporates pre-1611 fabric and has been designated High Significance:

“The Great Hall of 1670-74 possesses high significance as the direct successor to the hall of the medieval house and the most important room in the life of the Stationers’ Company. This level of significance extends to the entire exterior, including the refined east front by Robert Mylne and the west front, which preserves the 1670s form underneath a layer of render. Internally, the principal space, with its fine seventeenth century panelling, has high significance. However, the undercroft has been modernised with the insertion of linings and partitions, and these spaces are therefore of neutral significance in their current form.” (ABA, p.33)

Indeed, fabric of the medieval house partly survives within the lower walls of the present Great Hall, as observed by the *Royal Commission on Historical Monuments* (1929):

“The walls of the hall have a chalk core to the lower parts and are of brick above...the core of the walls of the basement may perhaps be part of the house of Lord Abergavenny, acquired by the Company and reconstructed in 1611.”⁵

Such observations have been reinforced by recent trial pits, undertaken by *Archaeology South East*. Hogg (August, 2018) notes that foundations of the Great Hall were found to comprise of “...dressed chalk and ragstone blocks overlain by red brick laid in Flemish bond. The foundation fill... comprised loose mid grey sand silt.” *Schofield’s Medieval London Houses* (2003, pp. 137-141) provides fine example of such chalk stone construction.

Though it is clear that proposed alteration of the north-east corner of the Hall will impact upon later-C17 fabric, it is likely that medieval/Early-Modern material survives to the lower storey only. Impact is further mitigated by an apparent portion of reconstructed/ consolidated brickwork within that area proposed for demolition. Though the precise extent of any later-infill is currently unknown, it is perhaps considerable; closing-off that former opening dictated by Robinson in 1757 (and consisting of the majority portion of that proposed for demolition – see **Figure 17**).

Though proposals will also require further changes to the Hall paneling, adjustments are confined to an area which has already seen repeated intervention. Proposed modifications have been carefully

⁵ There was purportedly a house on the site as early as 1317. The medieval house was apparently half-timbered. (Schofield, 2003).

considered, allowing for reuse of fabric and maintaining the existing appearance of this significant space (see PR Drawings).

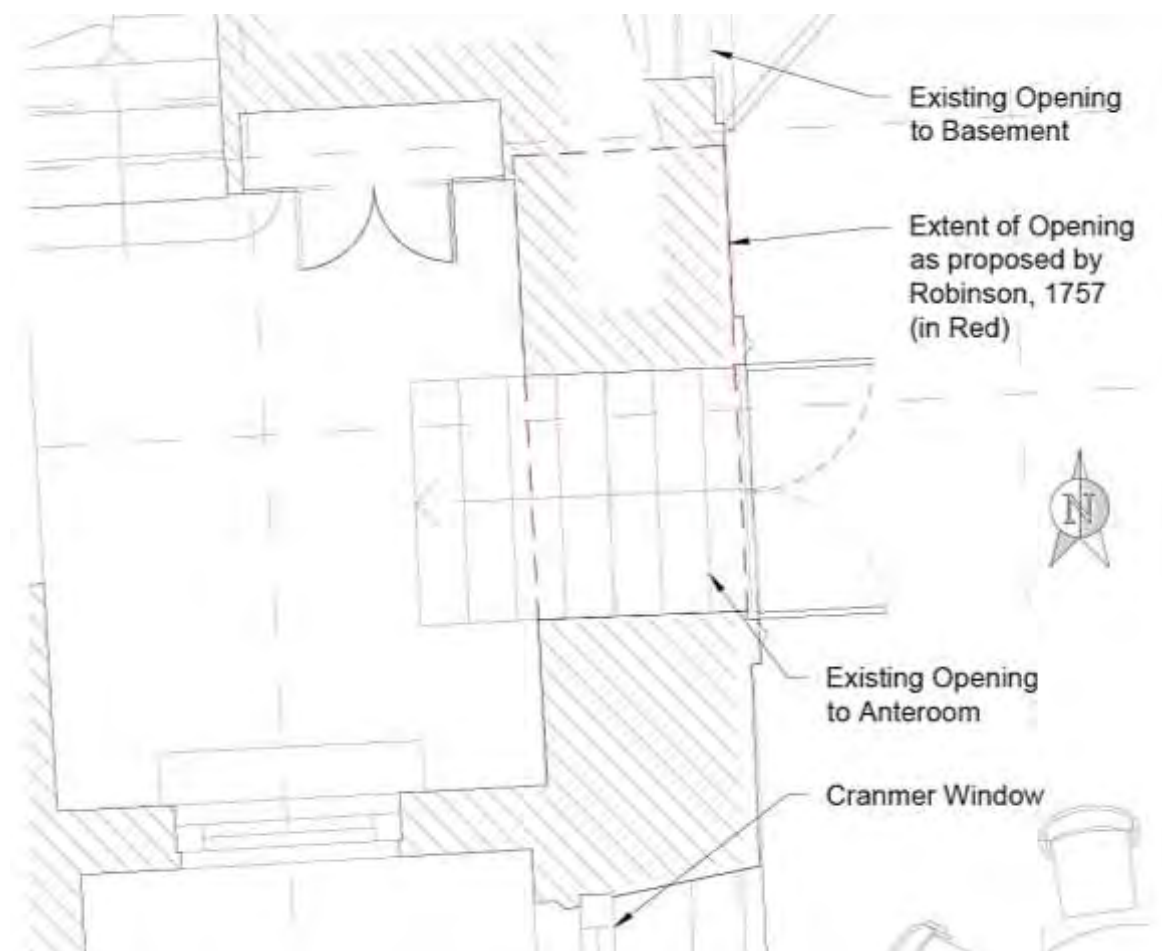


Figure 17: Extent of opening between Hall and Anteroom, as proposed by Robinson and contractually agreed, March 1757. Documentary evidence clearly suggests these works took place (and were subsequently closed up by Mylne during his work to the Court Room and Anteroom in c.1800). Material evidence is not immediately forthcoming however.

5.3.1.1 The Court Room

The Court Room, though comprising of 1950s work, has also been designated High Significance:

“The Court Room block is, essentially, a 1950s replica of the building that was damaged during the Second World War and its external form is therefore of high significance. Internally, the 1950s interior is a scholarly recreation of the 1757 interior, with some minor alterations, and is therefore also of high significance, particularly for its fine rococo plasterwork which was carefully salvaged by the architects. Indeed, the 1950s Court Room is remarkable for how successfully it recreates a fine Georgian interior. The adjoining Card Room is the principal survivor of W. C. Mylne’s work in 1825 and possesses high significance

for its decorative and spatial qualities including the octagonal lantern. The two columns inserted in 1825 to divide it from the Court Room were not reinstated in the 1950s and their absence does detract from the spatial sequence. Above these rooms are the archive and library, which are plain interiors of no interest and are therefore neutral.”

Current proposals retain the Court Room, avoiding any impact upon the grand interior, with its ornate Rococo plasterwork. The proposed Link Building responds to both the restored Court Room elevations and the western elevation of the Hall (see **5.4.1** and **Design and Access Statement**).

5.3.1.2 The Anteroom

The existing Anteroom dates to the 1950s and has been designated Neutral/Moderate Significance:

“The 1950s link block containing the Ante Room has a plain Neo-Georgian exterior that is sensitively designed yet of no particular distinction and is therefore neutral. Inside, the travertine-lined stair compartment and the classically treated Ante Room are more distinctive and therefore possess moderate significance, but the plain, back-of-house areas are neutral. A quirk of the link block is the staircase leading up from the basement into the north-east corner of the Great Hall, which dates partly from the 1950s but reuses parts of an iron staircase put here in 1912 (to serve the relocated kitchens), which has no particular claims to interest and is therefore neutral.” (ABA, p.33) ⁶

The Anteroom has certainly seen the most alteration, born of repeated dissatisfaction with both its size and its essentially compromised duality of function: the need for a passageway through *and* a functioning meeting space. As such, this area is certainly the most appropriate for intervention; demolition of the least significant portion of the complex will allow for a design which finally reconciles its two, long-desired functions (see **5.4.1** and **Design and Access Statement**).

These proposals are therefore considered to have minimal material impact upon the historic asset, with proposed replacement responding to both the banqueting hall and the adjoining range (see **Design and Access Statement**). Impact upon Context and Setting is considered below (see **5.4**).

5.3.1.3 The Roman/Medieval Wall

Where the floor to the western range undercroft is proposed for lowering, test-pits are to be undertaken in the first instance, in order to examine the precise nature of relationship between Card Room footings/floor and the Roman/Medieval Wall. Thus, any impact upon this important asset can be avoided.

⁶ It should be noted that this Anteroom was not constructed in reproduction of the earlier link between Court Room and Hall (see Frendo, 2018, p.10).

5.3.1.4 Archaeological potential

The Site's considerable *Historic Value* (due to its pre-1611 use as an aristocratic mansion) translates directly into archaeological interest (and thus potential). Such associations are strengthened by the *"...present layout of the site appearing to descend directly from that of the medieval house"* (ABA, 2018) (and to incorporate a significant quantity of historic fabric). Though successive works within the footprint of the Anteroom (and elsewhere) will have doubtless disturbed any below-ground evidence, potential for significant archaeological discovery in this area remains high; highlighted by the discovery of antecedent footings within recent trial pits:

"...constructed from uncoursed, undressed chalk blocks with no bonding material seen; the visible extent of the foundation measured 0.90m x 0.71m in plan and 0.31m in height. The precise nature or indeed the date of the wall foundation could not be determined within the confines of the trial pit, but it did appear to have been incorporated into the fabric of Stationer's Hall." (Hogg, August 2018)

Opening-up of historic fabric within the Great Hall has high potential to yield information on both the earliest configuration of the C17 asset (precise arrangement of windows etc.) and the form/extent of subsequent phases of work; undertaken throughout the eighteenth and nineteenth centuries, within an area of repeated intervention and reconstruction.

5.4 Impact upon Context and Setting

5.4.1 The New Link Building: A Summary

The new link building (see **Figure 45 - Figure 47** and **Design and Access Statement**) is designed to be a free-standing structure, alleviating any imposed load upon the existing assets. Though structurally separate, the material (brickwork) finish is designed to complement that of the existing Court Room elevation, whilst distinct contemporary design will clearly distinguish it.⁷ Windows are located within horizontal confines of the Court Room fenestration and the whole corresponds to those levels defined by its decorative string courses. Reduced height makes for clear delineation between new and old, making for a subservient structure (in mass and form) against that of the Great Hall. The oblique plan-form of the new building follows in a long tradition of compromise between maximization of floor plan and reduction of impact upon the Hall elevation, and its significant Cramner stained glass window (see **Figure 2**). The whole makes reference to that original cut-back elevation of the late-C17. Such a design inevitably projects further into the garden however, impacting upon both Setting and Context of this historic site.

⁷ The recycling of extant bricks to form a *Cocciopesto* mortar will provide further uniformity of colour and texture and act as a pozzolan to provide hydraulic function.

5.4.2 St Paul's Conservation Area

The St Paul's Conservation Area was first designated in 1971 and most recently revised in 2007 (Wynne Rees & Everett, March 2013).

Designation History	
11 February 1971	Amen Court Conservation Area and St Andrew's Hill Conservation Area designated.
10 December 1981	Ludgate Hill Conservation Area designated to combine Amen Court and St Andrew's Hill Conservation Areas and the network of alleys and courts lying in between.
15 May 1991	Ludgate Hill Conservation Area extended to include the carriageway at the southern end of St Andrew's Hill.
14 June 2007	St Paul's Cathedral designated to include St Paul's Cathedral and its immediate surroundings and the former Ludgate Hill Conservation Area.

5.4.2.1 St Paul's Conservation Area: Essential Characteristics

According to Wynne, Rees and Everett (2013):

The characteristics which contribute to the special interest of St Paul's Cathedral Conservation Area can be characterized as follows:

- An area of international significance, a focal point of the City of London, part of a major processional route and a focus of national celebration;*
- the setting of St Paul's Cathedral, a building of international architectural and cultural significance and one of England's most important classical buildings and a seminal building in the history of English architecture;*
- an area of great historic significance which has been a centre of Christian worship for almost 1400 years, and encompasses streets, buildings and spaces spanning a period of almost 1400 years;*
- an area of great architectural significance, including one of the largest concentrations in the City of London of Grade I, Grade II* and Grade II listed buildings, as well as numerous non-designated buildings of high architectural quality from different periods;*
- an area of internationally important archaeology relating to the adoption of Christianity in Britain, and including the City's largest intact extent of area and depth of archaeological deposits remaining of the medieval and Roman city;*
- an area where the urban grain varies from tightly knit historic streets and alleys to open spaces around St Paul's Cathedral and churchyard;*

- an area of predominantly masonry buildings with traditional proportions and materials;
- a visual character and groundscape that is enriched by a wealth of materials, features, monuments, public sculpture, signs, plaques, statuary, and other structures;
- an area characterized by the restrained presence of modern signage and advertising;
- an area of ecological value, rich in open spaces, trees and greenery which provide an important aspect of the Cathedral's setting;
- an area which attracts community events and public gatherings, particularly at the Cathedral and its churchyard;
- an area associated with nationally significant cultural and historic events and notable people, including the burial places of numerous historic figures.

5.4.2.2 St Paul's Conservation Area: Principal Views and Vistas

The majority of those principal views highlighted within City of London's *Character Summary* focus upon St Paul's Cathedral:

"Distant and local views make a strong contribution to the character of the area... Significant views are enjoyed into, through and from within the conservation area. These range from the grand, sequential approach to the west front of St Paul's Cathedral, to intimate glimpses or oblique views of courts and alleys. Views of the conservation area from the cathedral, including those from the west portico, north and south transepts, as well as the Stone and Golden Gallery levels, are of particular importance." (ibid)

However, two principal views also incorporate Stationers' Hall (see **Appendix 3**):

4. View north to Stationers' Hall from Ludgate Hill

11. View west from Amen Corner along Amen Court

Of these two, neither shall be affected by the proposed development, though the immediate Context and Setting of the Stationers' Garden will, of course, see some impact (see **5.4.3**).

5.4.2.3 Listed Assets within the Vicinity and Potential Impact

Asset	Status
Stationers' Hall	Scheduled Monument and Grade I Listed
Remains of Roman and medieval wall and gateway	Scheduled Monument
Church of St Martin	Grade I
Gate Piers attached to No.1 Amen Court	Grade II*
1-3 Amen Court	Grade II*
34-40 Ludgate Hill	Grade II

Material impact upon those assets immediately associated with the proposed development (Stationers' Hall, Roman/Medieval Wall, Church of St Martin) are discussed with Chapter 5.3.

Non-Material impact upon those Historic assets within immediate proximity of the proposed development (and forming part of the Garden Courtyard) are discussed within Chapter 5.4.4.

As for those protected assets within a broader context, it is clear that views of/from the buildings of Amen Corner and their associated gate piers shall remain unaffected by this development. The new Link Building will, however, be visible from the rear elevation of the Grade II Listed building of 34-40 Ludgate Hill (for locations of assets, see **Appendix 3** and **Appendix 4, p.27**).

5.4.3 Stationers' Hall Garden and Courtyard

5.4.3.1 Garden and Courtyard Development

The Stationers' Hall complex and its private, enclosed garden are intrinsic to the surrounding *Urban Grain*:

"Churches and Livery Company Halls in the conservation area have origins in the medieval period or earlier, and the configuration of their plots has remained largely consistent throughout the succeeding centuries, despite any rebuilding, alteration or extension which may have occurred. These buildings act as important reference points in the historic street plan." (ibid).

Such is certainly the case with Stationers' Hall, where successive developments have (mostly) respected that open space to the west of the Hall which, it is suggested, has been utilized as a

garden since at least c.1520 (see **Figure 18- Figure 20**).⁸ Though the principle of courtyard and garden has been in place since at least the medieval period, the extant space has clearly seen piecemeal formation, over a protracted period of time.

First indication of an enclosed Stationers' garden comes with Leybourn's 1674 survey (**Figure 21**). Here we see a formally set, square garden, bounded by railings to both the north and to the west. The Warehouse (now Archive building) is not yet built, with the courtyard open to the City Wall. Wren's newly constructed church (constructed 1677-86) closes-off the south, its projecting vestry narrowing the principal garden entrance to the south-east.

From the Ogilby and Morgan plan of 1676, is clear that the Warehouse (Archive) is still not built (**Figure 22**); it is only in 1690/1 (attributed) that evidence for its construction is forthcoming.

The late-C17 drawings within the Stationers' Hall archive (attributed by Frendo to the period 1690/1), also include a survey of the garden (**Figure 23**). Though no landscape features are shown, it details precise dimensions between Court Room and St Martin Ludgate. This north-south dimension shows "*87 foot – 6 inches to ye church*" [26.67 M], and "*71 foot – six inches to ye vestry*"; some 5.5 metres less than that seen today. The building plans within this collection of drawings are of further interest (**Figure 2**). This scale drawing indicates a western range of only 23 feet 6 inches in width; perhaps consisting of that two-storey, gabled range shown in the crude survey of 1720 - **Figure 24**).⁹ Such an arrangement apparently allowed for a further window to the western elevation great Hall; the plan showing six in total. This is somewhat dubious however, the principal elevation also showing an extra window. The east-west Garden dimension is very similar to that seen today, good indication the extant Warehouse building was in place by this date.

By 1746, Roque's map (**Figure 25**) clearly shows the Warehouse building (drawn of curious proportion), incorporating part of the ancient City Wall and running alongside the formally laid out garden (4-square with an avenue of trees running east to west). To what extent this garden arrangement is indicative, remains unclear.

By March 1756, William Robinson's proposed expansion of the Court Room (and Link Building) had been approved. Robert Mylne also then remodeled both the Great Hall (1800-1801) and, later, the Link Building. Thus, by 1815, we see a revised layout (**Figure 26**), with the Court Room building intruding into the garden "*...by carrying the front upon an arcade into the Garden seven feet six*

⁸ The later-C17 construction of the Warehouse building certainly intruded on the space however, as did Robinson's C18 revision of the Court Room which significantly extended into the Garden.

⁹ The crudely-drawn nature of the Hall itself does raise questions over the nature of this plan, though St Martin's is shown with some degree of accuracy.

inches” (Frendo, 2018, p. 5). If the late-C17 plan is to be believed however, this increase in building plan may have been substantially greater. It can be assumed the garden was laid out afresh (or at least substantially revised) following this work and that the historic paving to the south of the Court Room must also have been altered to suit. A square garden arrangement can thus be seen in 1815, corresponding to the newly expanded Court Room range.

It is only in the 1870s that further details are forthcoming (**Figure 27**). Here, we see the square garden with its now characteristic tree, centrally placed. Pathways are also shown, most notably leading to a former Hall undercroft door. Further detail is also provided by a sketch of September 1870, detailing a coffee house immediately to the west and protesting their intrusive views over the garden (**Figure 28**). This document of particular interest, as it shows both differing layout to the Warehouse doors (not paired) and clearly illustrates how the Stationers’ Company have long-valued the private nature of their garden.

Though **Figure 29** shows a small illustration, it is two photographs which provide valuable, later-C19 insight. Here, we see little in the way of planting within the garden and an increasingly plain, dilapidated layout (**Figure 32 & Figure 33**). Condition continues to degrade towards the middle of the C20 (**Figure 34 & Figure 35**). It was only in 1985 that the existing garden was laid out, taking advice from the Parks Department of the City of London Corporation (Sullivan, 2004, p. 122).

5.4.3.2 Summary

Though the Garden at Stationers’ Hall has seen much alteration over time, the space still embodies considerable *Historical* and *Evidential Value*; reflecting early medieval city layout and contributing much to the *Urban Grain* of both the Conservation Area and the City of London.

This tranquil, private space can also be considered significant for exactly those reasons (*Aesthetic Value*); as escape from the pace of city life, as opportunity to reflect upon London’s development and as intimate opportunity to appreciate some of its most prized heritage assets (*Evidential Value*). Indeed, the very nature of its piecemeal development does much to reflect the area as a whole, succinctly outlined by Wynne, Rees & Everett (March 2013):

“The palette of materials throughout the area is rich and varied... The conservation area includes buildings and structures of numerous historical periods, and in many cases those of great antiquity stand alongside examples of the City’s most modern and striking contemporary architecture. The combination of old and new built fabric, knitted closely together within the historic street pattern is a key aspect of the conservation area’s character.”

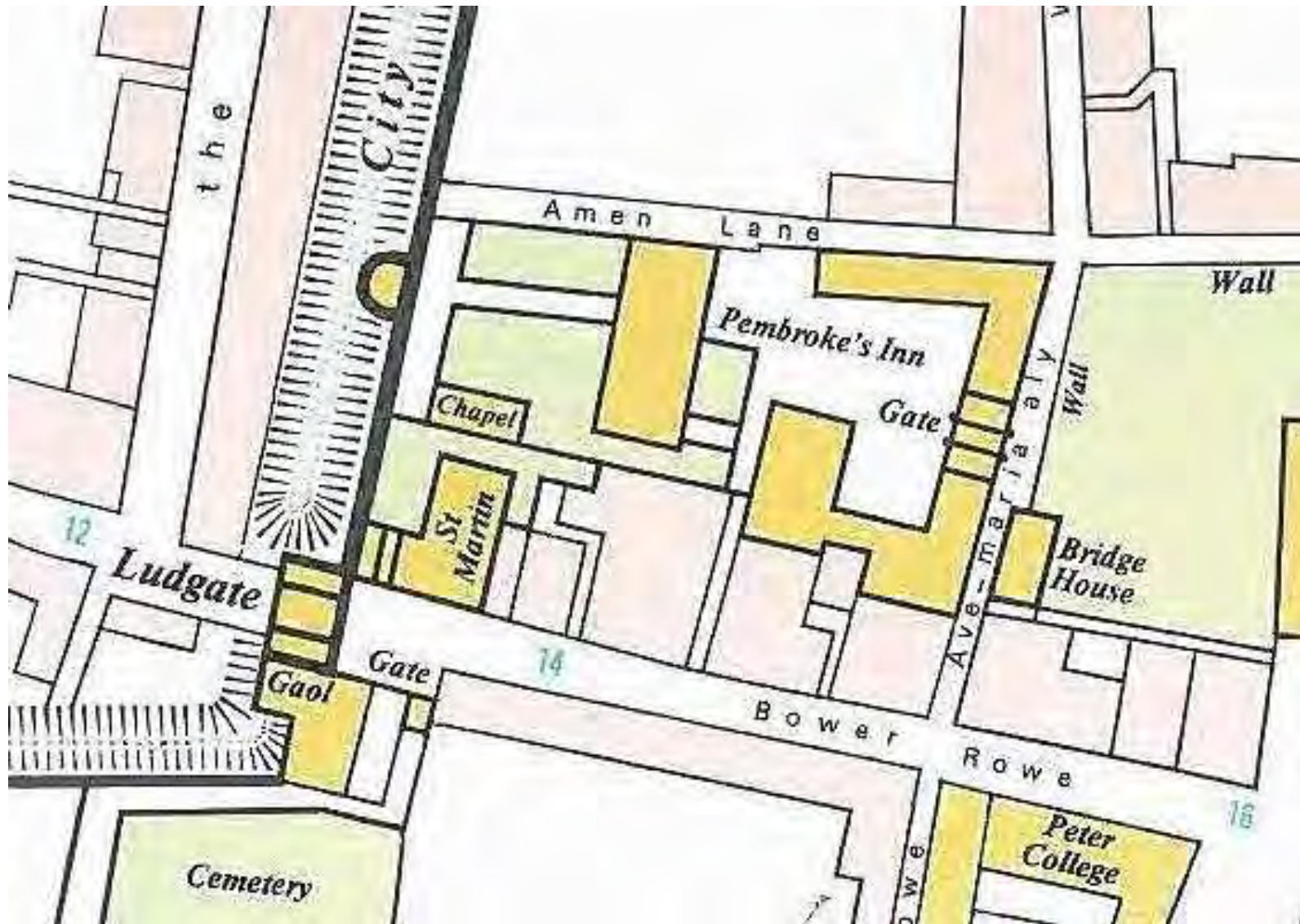


Figure 18: Lobel reconstructed map of c.1520, showing Pembroke's Inn/Abergavenny House

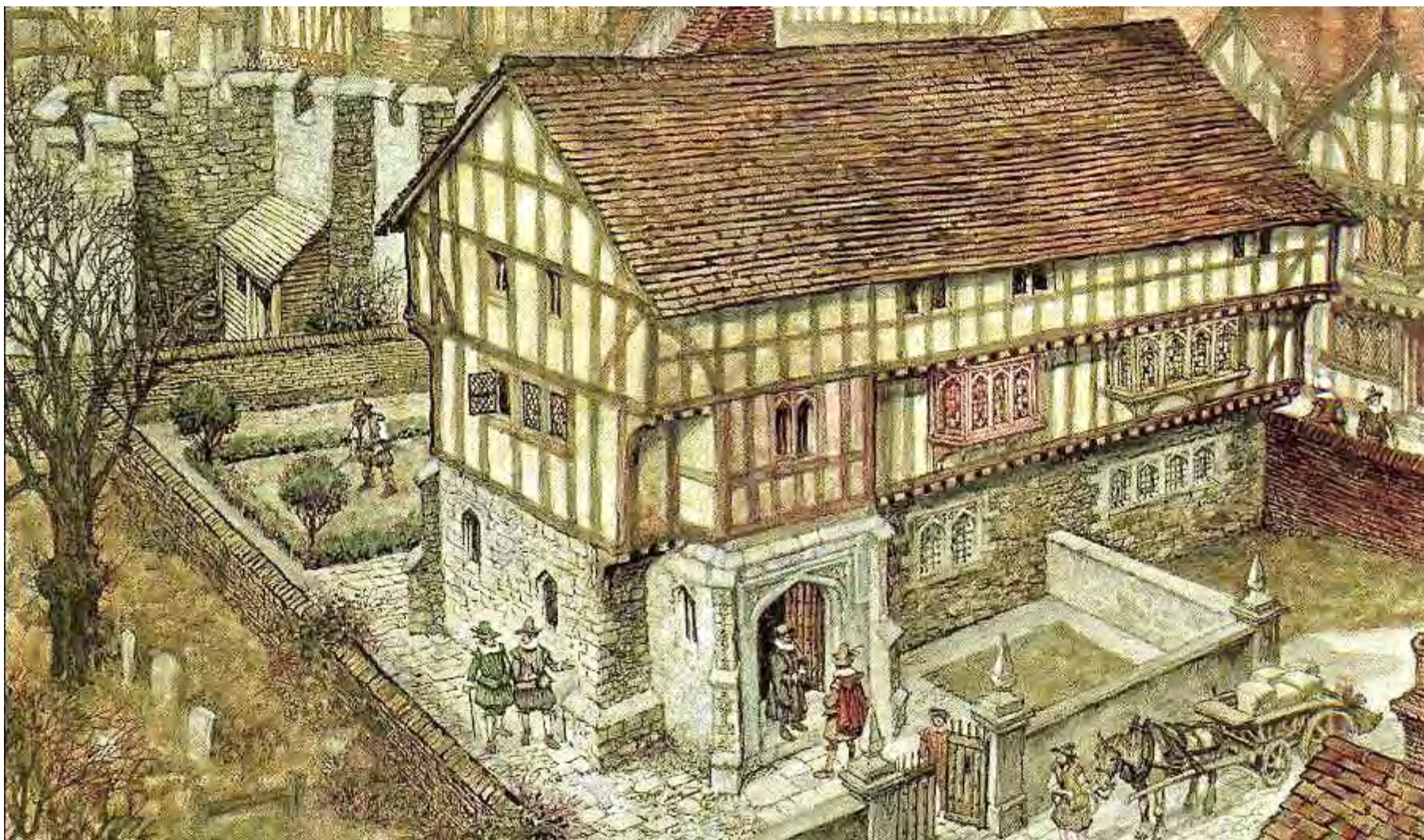


Figure 19: c. 1600, reconstruction of Abergavenny House by Peter Jackson. Note the reconstructed garden space to the west of the building.



Figure 20: Ryther, Augustine. *'The Cittie of London'*, 1633. This crudely drawn map shows the old St Martin's church, with rather confused detail to the arrangement of Abergavenny/Pembroke House behind.

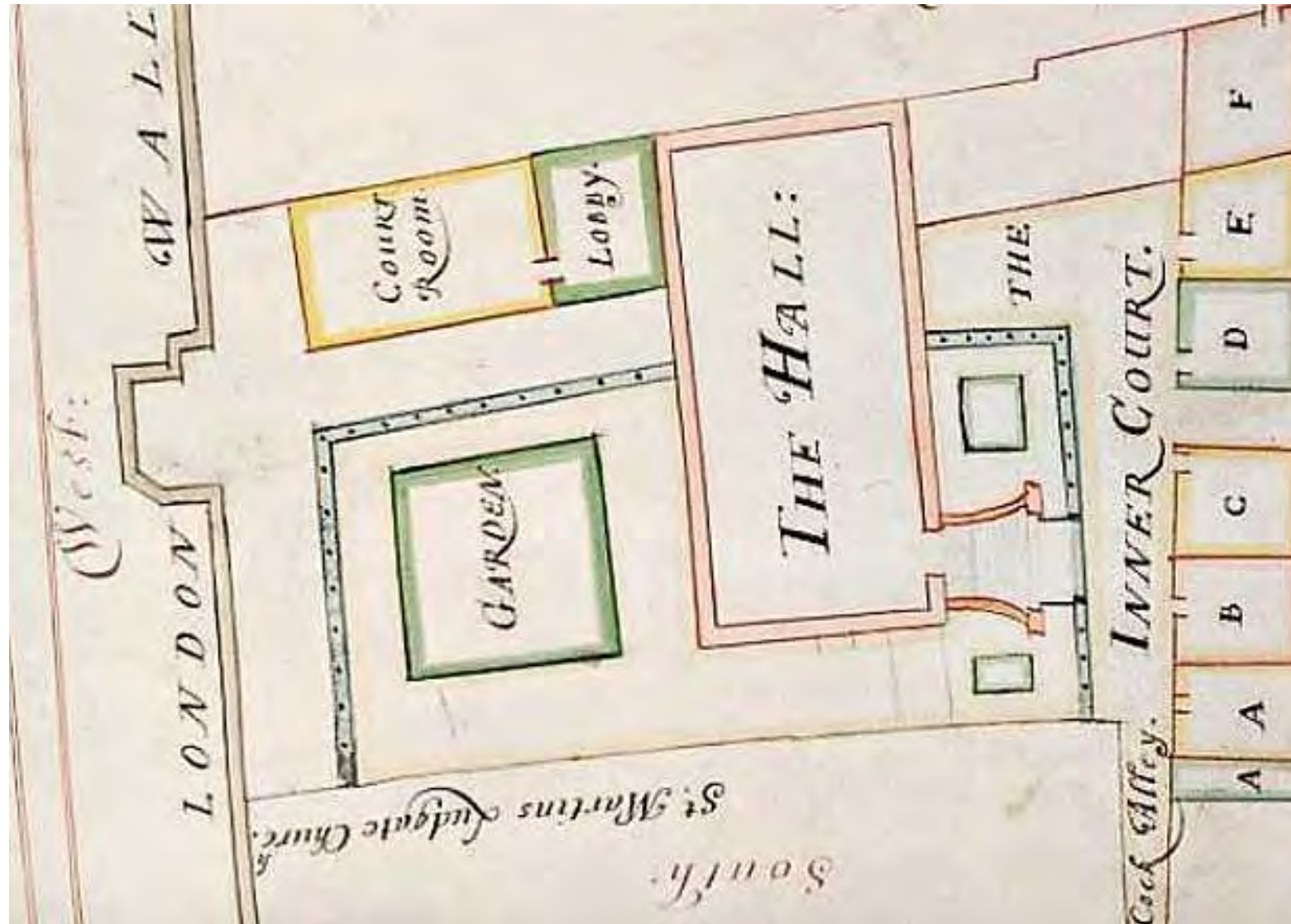


Figure 21: 'A Survey, Both General and Particular; of All the Lands and Tenements, Belonging to the Worshipful Company of Stationers, London, 1674.' By William Leybourn (Detail). Note the square garden with railings to the north and east (TSC/1/G/02/01)

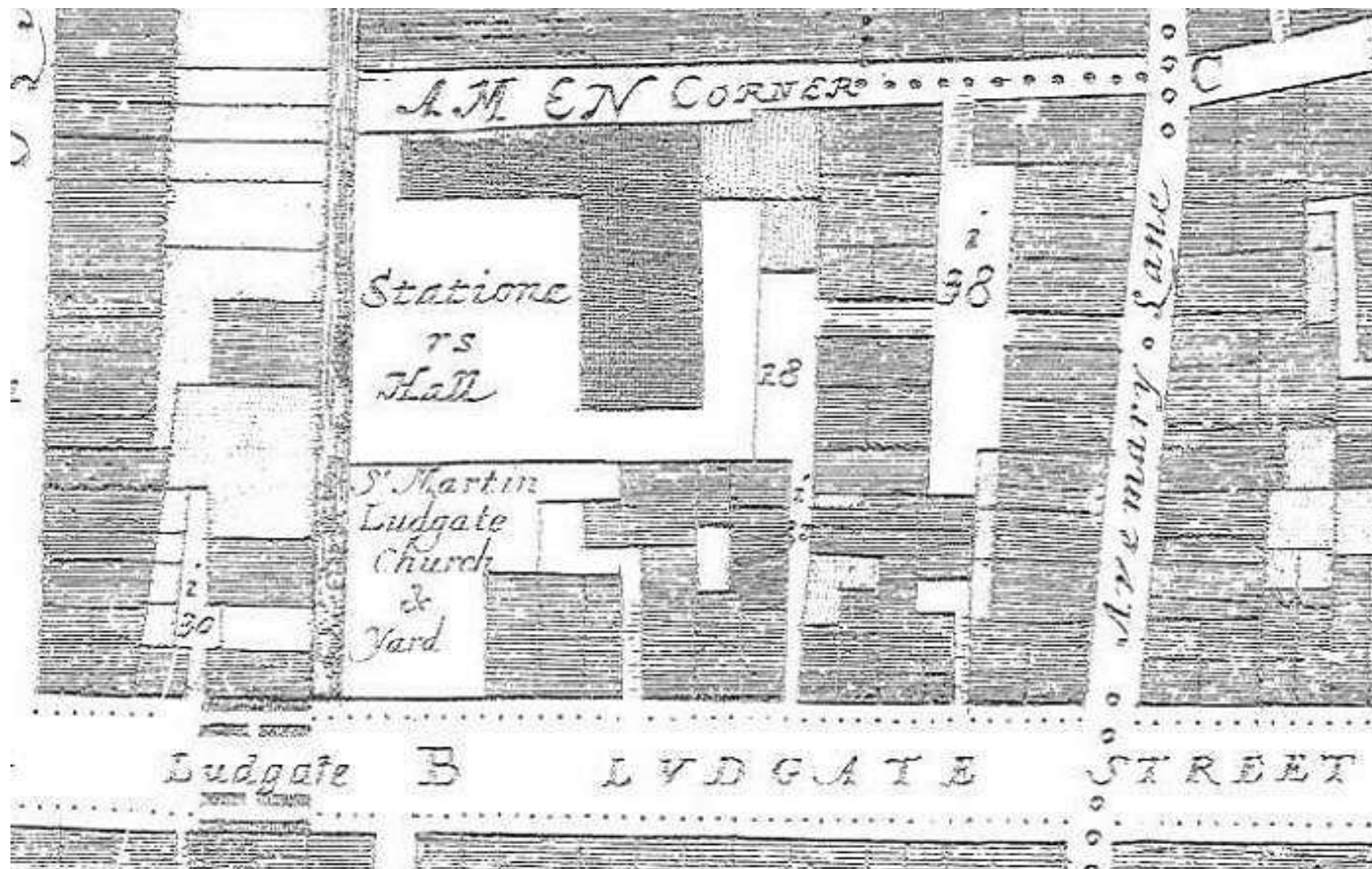


Figure 22: Ogilby and Morgan, 1676

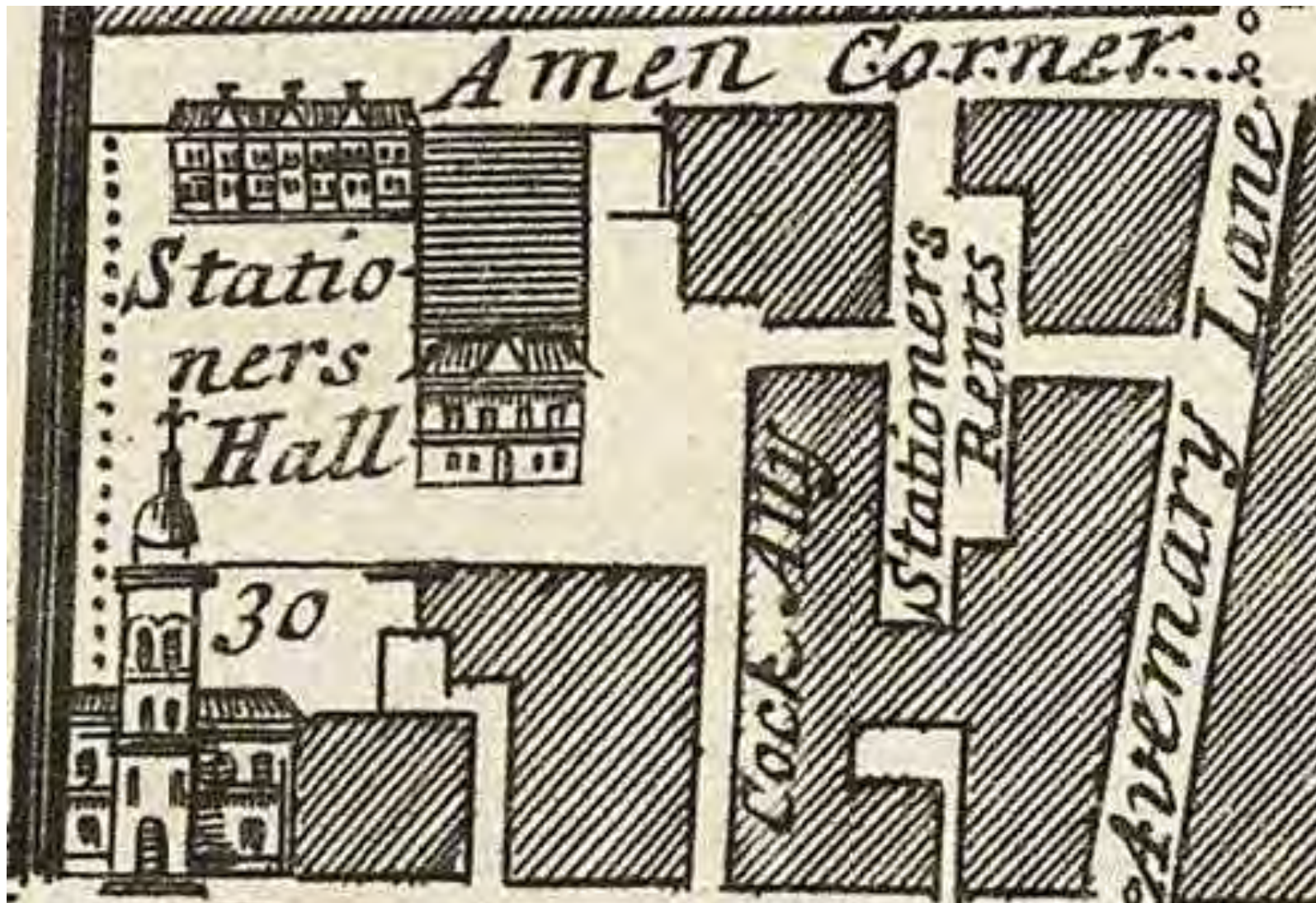


Figure 24: 'The wards of Farington [sic] within and Baynards Castle with its divisions into parishes, taken from the last survey with corrections', by Richard Blome, 1720. Note the crudely drawn Court Room elevation, of two storeys plus garret with a 7-bay, three-gabled elevation.



Figure 25: John Rocque's map of London, Westminster and Southwark (1746). Note a formally laid out garden is clearly indicated.

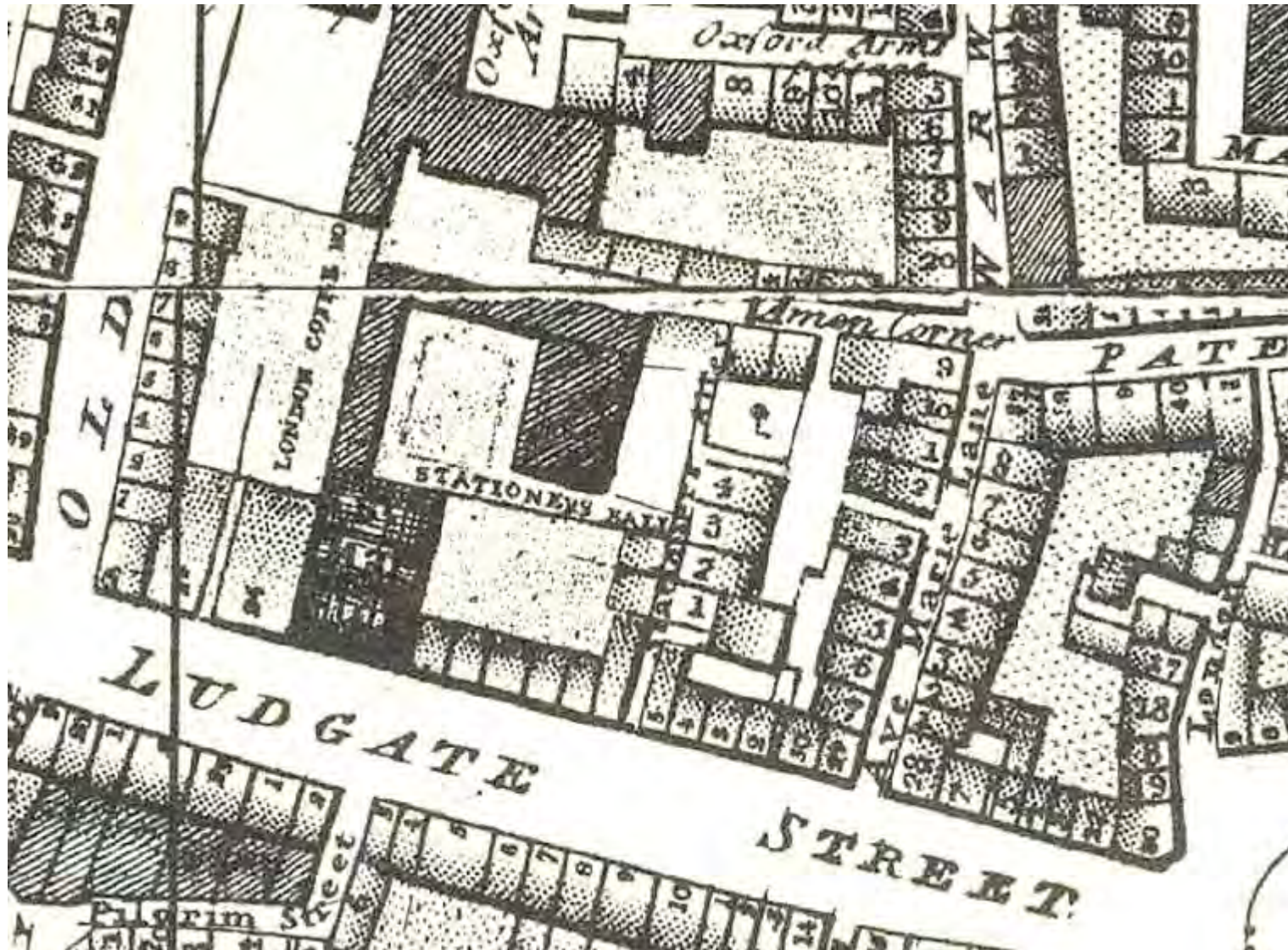


Figure 26: Horwood (Revised), 1815. The expanded Court Room range is in place by this date.



Figure 27: c.1870 Plans showing the layout of the Hall complex and Gardens. Note the layout appears to indicate a door to Hall undercroft which is no longer existing (TSC/1/G/06/04/01/51).

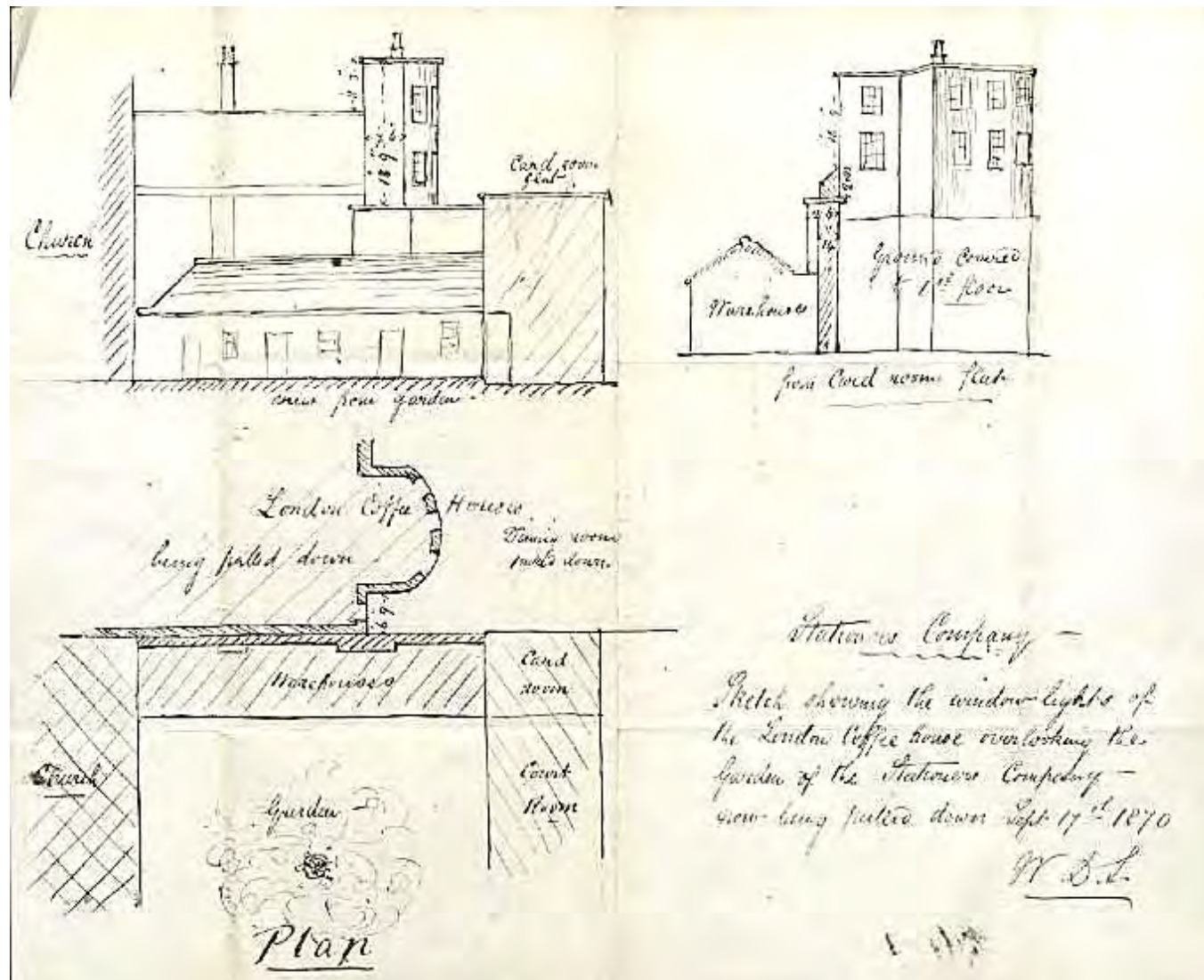


Figure 28: Sketch showing the London Coffee House overlooking the Stationers' Hall Garden, September 1870. Note the characteristic tree within the Garden and the Warehouse building, showing a different door arrangement to that seen today (TSC/1/G/02/05/08/10)

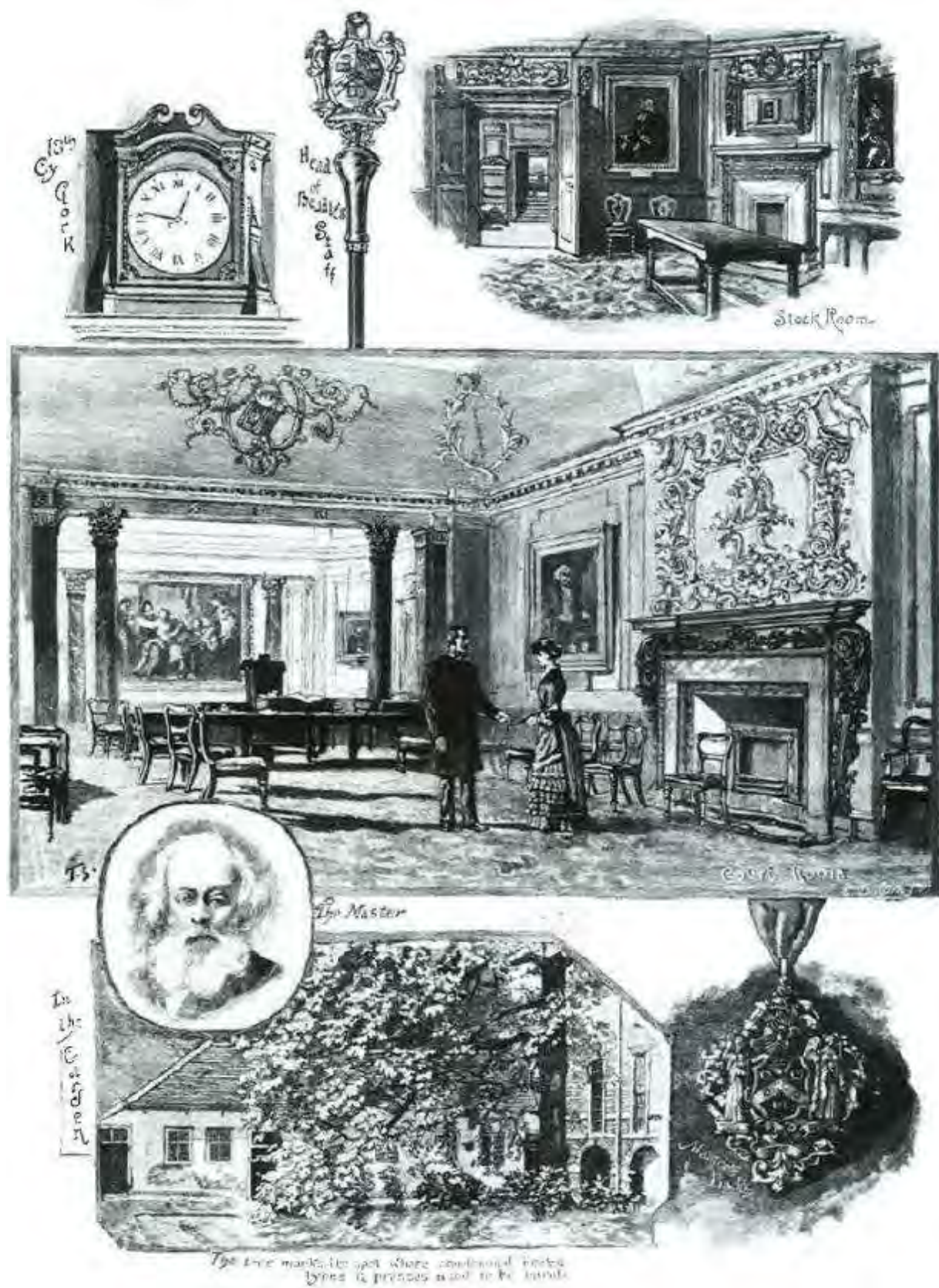


Figure 29: Stock Room, Court Room and Card Room interiors, with an external view of the gardens, *Illustrated London News*, 20 December 1884.



Figure 30: Photograph looking south from the Anteroom, 1892 (Sullivan, 2004, p. 112)



Figure 31: Photograph looking south-east, 1892 (Sullivan, 2004, p. 112)



Figure 32: Stationers' Hall Garden, 1901 by Thomas R Way (Sullivan, 2004, p. 110)



Figure 33: Court room and anteroom, 1903 (Sullivan, 2004, p. 115)



Figure 34: War damage to the Court Room and Anteroom, 1940 (Sullivan, 2004, p. 114)



Figure 35: War damage to the Court Room and Anteroom, 1941 (Sullivan, 2004, p. 143)

5.4.4 Garden and Courtyard Impact

Gardens

Though current proposals will intrude further upon the western Courtyard Garden, work is confined to a range which has seen the most revision over time, and which has made demonstrable, historical advances into the garden space. The new Link Building will form yet another part of the piecemeal Courtyard development, which is skirted by various buildings from different phases of construction. The introduction of a modern structure will serve to perpetuate this long-standing narrative; one which is also reflective of the wider conservation area, with its intermingled buildings from diverse historical periods.

Paving to the north of the Garden is clearly of some antiquity (**Figure 44**). However, it is likely to have been relocated at least once historically; to allow for expansion of the Court Room in the C18 and again, when the site was remodeled in the C20. It is proposed for retention and re-laying using appropriate methods and materials.

The Hall

Though the principal elevation of the Hall was substantially remodeled by Mylne in c.1800, that which overlooks the Courtyard Garden was far less amended. The rectangular windows, topped with *blind oeil-de-boeuf*, continue to reflect the 1673 composition (**Figure 39**). Cementitious render conceals a number of significant alterations, however. Beyond that expansion of the western Court Room range (which must have obscured more of the building), this elevation has seen insertion of a two-part sash window to the southern stairwell and the lowering of sill levels in the 1880s (with insertion of stained-glass windows). Access from garden to the undercroft has also varied over time (see **Figure 27 & Figure 33**), resulting in a number of historical doorway positions and their necessary alterations to the fabric.

The current proposal will inevitably obscure more of this elevation, though, due to the oblique nature of its plan, its impact will be confined, principally to those views from the north-west corner of the Garden (see **Figure 47**).

Views from *within* the Hall will be unaffected due to the translucent stained-glass, though light levels through the *Cranmer* Window might well be affected. In mitigation, discrete illumination is proposed, concealed within the oblique elevation of the new Link Building.

Court Room Wing

Constructed in the C20, the Court Room elevation was built as restoration of Robinson's C18 work. Yet it is certainly compromised. Beyond the concealed, steel/concrete structure, it is clear that original features were altered (sashes to attic storey rather than leaded casements) and that historical accretions were reinstated (windows to the ground floor arcade). Conversely, the Link Building succumbed, once again, to that long-standing dissatisfaction with both form and function. Mylne's 1835 alteration (with its sweeping return to the Hall - **Figure 38**), was never rebuilt. Despite this, Court Room elevations have been attributed high significance by Alan Baxter, and for good reason; the internal finish of the Court Room being a particularly successful recreation.

The proposed Link Building responds most closely to this Court Room elevation, making for a cohesive yet clearly diverse range of buildings to the north of the Garden (**Figure 45 & Figure 46**). Such arrangement is designed to distract from intrusion on the Hall, which still stands strong and reads independently from the newly-imposed form (see **Design and Access Statement**).

Archive Building (formerly Warehouse)

Views of the Warehouse (now Archive) to the west of the site are essentially unaffected by this new development. However, it is clearly visible within views *from* the asset. Viewer experience will be somewhat mitigated by the modern interiors of the recently fitted-out Archive facility.

St Martin's within Ludgate

Views of the church to the south of the site are essentially unaffected by this new development, sitting as it does to the opposite side of the garden. That is not to say that the church shall be experienced entirely separately from the new development, but will become part of a Context which reflects the wider Conservation Area, with its juxtaposition of new and old. A proposed terrace atop the new construction will afford a unique public aspect upon this imposing building, allowing its grand northern elevation to be viewed afresh, within the serene context of the Garden space. Broader project proposals also see reinforced connection between Garden and Church, allowing for greater Public Access and both mutual administrative support and a bolstered contextual relationship between these highly significant buildings.

5.5 Summary

Utilizing carefully considered design which responds to a thorough understanding of the historic asset, proposed works are considered to constitute less-than significant harm to the historic assets.

Demolition of a C20 designed /built portion of the western range is proposed, one that will leave the significant C20 restored Court Room (and its interiors) unaffected. Where demolition of Hall masonry is inevitable, there is clear documentary evidence to suggest that it may, in fact, comprise principally of later-C18 material. Alterations to the fine, C17 Hall paneling shall be judiciously carried out and confined to an area which is already much altered.

These proposals will inevitably impact upon both Context and Setting of a significant Courtyard Garden, which is skirted by a remarkable array of historic assets. The new link building will, however, be located within the much-altered western range of the Stationers' Hall complex, one which has seen piecemeal development over time and has historically encroached upon the Garden arrangement (and surely forced landscape revision).

Little historic garden landscaping remains intact, the whole having been revised from parched grass to terraced beds in the twentieth century. The paving to the north (which is clearly of some antiquity) shall be carefully lifted, retained and re-laid; a process which it has likely been enacted in the past.

Whilst external views of the Hall shall inevitably be affected, interruption is principally confined to those from the far north-west of the space, furthest from the principal Garden approach.

The new link building is designed to complement that of the existing Court Room elevation, whilst a distinct contemporary design will clearly distinguish it. The oblique plan-form of the new building follows in a long tradition of compromise between maximizing floor plan and minimizing impact upon the Banqueting Hall elevation (and the significant Cramner stained glass window). Thus, the whole makes reference to, and elongates that original cut-back elevation of the late-C17, whilst also seeking to reconcile a long-standing conflict of use between necessary thoroughfare and discreet meeting room space.

Introduction of a modern structure will serve to perpetuate that long-standing narrative of piecemeal development which defines the Courtyard Garden, one which is also reflective of the wider conservation area and its buildings of numerous historical periods; where those of great antiquity stand alongside striking contemporary architecture.

Where such outlined harm does occur, the pronounced *Public Benefit* of improved wheelchair access throughout the site (including the highly significant Great Hall) is considered to constitute strong and justifiable mitigation, in line with NPPF (2018) Paragraph 196:

‘Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.’

Proposed improvement to administrative spaces will also help support this remarkable historic asset, well into the twenty-first century. This work forms part of a wider proposal, which more closely integrates Hall and Church. This will improve Public Access/Use of both highly significant assets, promoting physical interconnection between the two and firmly reinforcing their Contextual relationship.

6.0 Summary of Impact Upon Significant Assets

Asset	Status	Impact
Stationers' Hall	Scheduled Monument and Grade I Listed	<u>Material</u> <ul style="list-style-type: none"> Part-demolition of C17 Masonry to Hall, confined to an area of major historical amendment which likely includes majority later fabric Modification of Hall paneling, confined to an area of repeated (and major) historical amendment Part-demolition of C20 Western Range, confined to an area of neutral significance Amendment of historic paving to Garden (likely relocated in the past) Excavation within Garden Further intrusion into Garden space
		<u>Views</u> <ul style="list-style-type: none"> Part-obscuration of the western Hall elevation within views from the Garden and from the Archive Building A new, high-level aspect on the site will be afforded by the proposed development
		<u>Public Benefits</u> <ul style="list-style-type: none"> Marked Improvement to Accessibility within the Great Hall Expansion and Improvement of Administrative Facilities
		<u>Overall Impact</u> <ul style="list-style-type: none"> Moderate Beneficial
Remains of Roman and medieval wall and gateway	Scheduled Monument	<u>Material</u> <ul style="list-style-type: none"> None
		<u>Views</u> <ul style="list-style-type: none"> None

		<u>Overall Impact</u> <ul style="list-style-type: none"> • Neutral
Church of St Martin	Grade I	<u>Material</u> <ul style="list-style-type: none"> • None
		<u>Views</u> <ul style="list-style-type: none"> • None
		<u>Public Benefits</u> <ul style="list-style-type: none"> • Improved Public Access/Use of Church as part of broader project programme
		<u>Overall Impact</u> <ul style="list-style-type: none"> • Moderate Beneficial
Gate Piers attached to No.1 Amen Court	Grade II*	<u>Material</u> <ul style="list-style-type: none"> • None
		<u>Views</u> <ul style="list-style-type: none"> • None
		<u>Overall Impact</u> <ul style="list-style-type: none"> • Neutral
1-3 Amen Court	Grade II*	<u>Material</u> <ul style="list-style-type: none"> • None
		<u>Views</u> <ul style="list-style-type: none"> • None
		<u>Overall Impact</u> <ul style="list-style-type: none"> • Neutral

34-40 Ludgate Hill	Grade II	<u>Material</u> <ul style="list-style-type: none"> • None
		<u>Views</u> <ul style="list-style-type: none"> • New development will be partly visible from the rear of the property
		<u>Overall Impact</u> <ul style="list-style-type: none"> • Neutral

7.0 Gazetteer of Garden Views



Figure 36: Existing view of Link Building and Hall from the south of the Courtyard Garden



Figure 37: Existing view of the Hall and Church from the north-west corner of the Garden



Figure 38: Extant view of the Church from the north-west corner of the Garden



Figure 39: Existing view of the Hall from the north-west corner of the Garden



Figure 40: High aspect of the Warehouse (Archive Building) from atop the Hall



Figure 41: Extant view of the Garden from the Principal Approach in the south-east corner



Figure 42: Extant view of the Church from the Principal Approach in the south-east corner



Figure 43: Extant view of the Link Building from the Principal Approach in the south-east corner



Figure 44: Historic Paving to the north of the Garden



Figure 45: Proposed view of the new Link Building from the south of the Garden



Figure 46: Proposed view of the new Link Building from the principal approach in the south-east corner of the Garden



Figure 47: Proposed view of the new Link Building from the north-west corner of the Garden

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Appendix I: List Entries

Title:	Stationers' Hall
Heritage Category:	Scheduled Monument
List Entry Number:	1005549
Date first listed:	07-Jan-1952
National Grid Reference:	TQ 31816 81206

Reasons for Designation:

A livery hall is a type of guildhall belonging primarily to the London livery companies (chartered companies originating from the craft guilds), but also found elsewhere in the country. It is so called because of the livery worn by members of the guild. Guildhalls were traditionally the hall of a crafts, trade, or merchants' guild but latterly had many different functions and became recognised in the 19th century as town halls. Some livery or guild halls were built in the medieval period but they became more widespread in the 17th and 18th centuries. The classic form was often a first-floor meeting room, raised on arcades, incorporating an open-sided market hall on the ground floor. They also often included administrative rooms or offices. During the eighteenth century increasing architectural elaboration was given to halls, reflecting the success of livery companies, the growth of municipal self-awareness and urban identity. Until the Municipal Corporations Reform Act in 1835, boroughs (corporations), which were often based at guildhalls, acted as private bodies that existed for the benefit of their members rather than the community at large. The Act reformed the administration and accountability of incorporated boroughs and they subsequently gained greater municipal power and responsibility. This was reflected in the scale and architectural adornment of later guildhalls, which became high points of Victorian public architecture.

Despite later alterations and restoration, Stationers' Hall is a fine example of a late 17th century livery hall, which survives well. It will also retain archaeological information about the mansion house of Lord Abergavenny. It is a significant testament to the development of commercial activity and trade regulation in the City of London.

Details:

This record was the subject of a minor enhancement on 25 September 2014. The record has been generated from an "old county number" (OCN) scheduling record. These are monuments that were not reviewed under the Monuments Protection Programme and are some of our oldest designation records.

The monument includes a late 17th century livery hall, altered in the 18th, 19th and 20th centuries. It is situated between Amen Court and Ludgate Hill, near St Paul's Cathedral in the City of London.

The main front to Amen Court, was refaced by Robert Mylne in 1800. It is constructed of Portland stone with four round-arched windows and an arched doorway, a cornice and parapet. There is a second, lower entrance to the basement. Behind the Amen Court frontage, the hall buildings are disposed around a central courtyard. These include the hall-block, a single storey building on the east side, the Court Room, a three storey building on the north side, and the Storehouses, a single storey to the west. The Guild Church of St Martin-within-Ludgate completes the south side of the

quadrangle. A later wing projects to the east from the north end of the hall-block, backing onto Stationers' Hall Court, and is not included in the scheduling. The walls of the hall-block have a chalk core to the lower parts and are of brick above; the other buildings are of brick with some Portland stone dressings and the roofs are covered with tiles and slate. The walls of the basement of the Hall are thought to contain surviving masonry of an earlier house of Lord Abergavenny.

The Worshipful Company of Stationers and Newspaper Makers (better known as the Stationers' Company) were formed in 1403 and gained a Royal Charter in 1557. It was responsible for copying and selling manuscript books and writing materials, as well as enforcing copyright regulations until about 1695. The company purchased the mansion house of Lord Abergavenny on the current site in 1606. It was burnt down in the Great Fire of London and the current hall was built on the site in about 1670. The Court Room was added in 1748 and alterations were carried out in about 1800, 1885 and in 1952.

Stationers' Hall is Grade I listed. The Roman and medieval remains of London Wall on the west side of the site are included in a separate scheduling.

Title:	Stationers' Hall
Heritage Category:	Listed Building
Grade:	I
List Entry Number:	1064742
Date first listed:	04-Jan-1950
National Grid Reference:	TQ 31831 81201

Details:

I Late C17 and later. Hall circa 1670, refaced by Robert Mylne in 1800. East side of Portland stone with four round-arched windows and doorway with arch above. Small cornice and high parapet with Coade stone panels. Semi-circular steps and pair of ornamental lamp standards to entrance. Second, lower entrance to basement. Fine lead rainwater head. Rear rendered in plain manner.

Interior has coved plaster ceiling of C19 character. Fine original screen, with modest staircase, also doorcases, dressers panelling etc with much carving. C19 stained glass. Further fine carved C17 joinery in Stock Room to east, which with adjoining staircase dates from 1887. This wing has high basement and is faced in Portland stone with slated roof and a low spire above a bay window. Small, stone-faced addition at south end of hall with entrance below. Courtroom, to north of rear garden has been rebuilt but retains some C18 features. To west is simple, original building of one storey now stuccoed. Mullioned and transomed windows. Hipped, tiled roof. South side of garden is enclosed by St Martin's Church. Scheduled AM.

Title: Remains of Roman and medieval wall and gateway W of boundary of Stationers' Hall to Ludgate Hill

Heritage Category: Scheduled Monument

List Entry Number: 1002052

National Grid Reference: TQ 31795 81155

Details:

This record has been generated from an "old county number" (OCN) scheduling record. These are monuments that were not reviewed under the Monuments Protection Programme and are some of our oldest designation records. As such they do not yet have the full descriptions of their modernised counterparts available. Please contact us if you would like further information.

Title: CHURCH OF ST MARTIN

Heritage Category: Listed Building

Grade: I

List Entry Number: 1359194

Date first listed: 04-Jan-1950

National Grid Reference: TQ 31802 81172

Details:

1677-87, by Wren. Body of church square with order of 4 composite columns and pilasters defining barrel-vaulted Greek Cross. Flat-ceiled corner compartments. 3 arched openings to south containing entrance lobbies (altered) and vestry, with gallery over. 3 carved doorcases. West gallery with carved organ case. Carved pulpit, reredos, doorcase to north vestry and white marble font with wooden cover. East and west sides of church obscured. South front of Portland stone with 3 doorways (2 disused) and 3 windows above. Centre rises as tower flanked by large consoles above parapet. Octagonal upper stage and shaped spire with gallery. Rear elevation (to garden of Stationers' Hall) of red brick with slight Portland stone dressings and rendered parapet with small central gable over circular window. Single storeyed vestry apparently of late C17 but partly rendered and partly refaced.

Title: 1-3, AMEN COURT EC4

Heritage Category: Listed Building

Grade: II*

List Entry Number: 1064737

Date first listed: 04-Jan-1950

National Grid Reference: TQ 31841 81222

Details:

2. Late C17 row. 2 storeys plus basement and dormers. Red brick with bands and later parapet of yellow brick. Tiled and slated roofs. Plain, recessed entrances with late C18 fanlights and lamp arches with lamps. Slated mansard to front of Nos 2 and 3. No front area. Bow window to return of No 3. Irregular rear with large wing to No 1, small wing to No 2. Alterations. Large area.

Title: 34-40, LUDGATE HILL EC4

Heritage Category: Listed Building

Grade: II

List Entry Number: 1064602

Date first listed: 10-Nov-1977

National Grid Reference: TQ 31820 81163

Details:

2. Mid-Victorian; 5 main storeys and 2 dormered storeys in the roof; minted facade of 9 bays (the centre 3 recessed) over a ground floor with modern shopfronts. Ground floor retains its central semi-circular recessed entrance with domical-head and iron railed semi-circular projecting balcony to central 1st floor window over. The facade above ground floor level freely composed mainly from French Renaissance elements; the windows generally round-headed and in trios, those to the 2nd, 3rd and 4th floors with attached columns and all with undivided plate glass in the sliding sashes, the 1st and 2nd floors united by giant pilasters framing the outer bays and untapered columns to the recessed centre; cornice at 3rd floor level above which the 3rd and 4th floors are similarly united by giant pilasters supporting a composed entablature with scallop ornaments in the frieze. Modern dormers.

Title: PAIR OF GATEPIERS ATTACHED TO NUMBER 1

Heritage Category: Listed Building

Grade: II*

List Entry Number: 1064739

Date first listed: 05-Jun-1972

National Grid Reference: TQ 31855 81215

Details:

2. Probably late C17. Patched red brick with moulded stone bases and painted caps with ball finials.

Archive material on alterations and re-structuring of Stationers' Hall

Kitchen

The first specific court book references to the kitchen are from 1690/1 (Court Book F), transcribed below (modern spelling):

Monday 1st December 1690:

'The Master acquainted the court that this Company's Kitchen being under the common Hall occasions great complaints against the smoke and smell and steam of the victuals from all such as hire the Hall for feasts which if remedied, would bring the Hall into great custom for feasts, so that the price current that was now but 40 shillings might be raised to double that price and that besides he found by computation that if the said Kitchen were converted into Warehouses that would yield to the Company 30 pounds p.a. and further said that another more convenient Kitchen might be built in the Company's void ground, for about the sum of 120 pounds. By all which it appearing greatly the Company's interest it was ordered that the Kitchen should be forthwith converted into warehouses and Mr Norton, Mr Brewster, Mr Bellinger, Mr Sims, Mr Bassett, Mr. Clavell, Mr. Copping and Mr. Dring or any 5 of them were appointed a Committee to assist the Master and Wardens and to consider and advise with workmen about the best place to build such new Kitchen and about the contrivance and charge thereof and report.'

19th December 1690:

'Mr Horne the Bricklayer delivered to the Master in Court a model or design for the building a new Kitchen in the Garden which the Court took time to consider of till next monthly Court.'

9th February 1691:

'The consideration about the alteration of this Company's Kitchen adjourned till next monthly Court.'

2nd March 1691:

‘The Committee appointed at a Court of the 1st of December last about the alteration of the old and building a new Kitchen are again desired to advise with workmen and take a true estimate of the charge thereof and report the same at next Court and the same committee are desired to order and make such alterations in the Courtroom as they shall see fitting and to make two butteries on each side of the Common Hall in the hallows or vacancies left in the brickwork there behind the Wainscot.’

After that there are no further references to this plan, and no evidence as to whether or not the kitchen was ever moved as proposed. The earliest plan we have which names the kitchen (figure 1) shows it to the east of the Hall (approximately where the current Stock Room and Crush Landing are). The plan is undated, but the hand-writing suggests it's from the 17th century, so it could be the design for the proposed new kitchen under discussion by the Court in 1690/1.

The next reference we get to the kitchen in the Court Books comes over two centuries later, suggests that even if the kitchen was moved, it subsequently reverted to its position beneath the Hall. Minutes for a Court Meeting of 7th May 1912 cite a report by Daniel Watney & Sons (surveyors) on a ‘plan of proposed alterations to [the] basement under [the] Hall’, based on a proposal by Francis Hooper (architect):

We understand the proposals are

A To do away with the Kitchens and store Rooms under the Hall – to block up the passage way under the Hall from the Forecourt to the Court Yard at the back, and to convert the whole Basement (exclusive of the Wine Cellars) into one large Warehouse 66 feet in length and 32 feet 6 inches in width – giving an area of about 2150 superficial feet.

B. To construct a subway into the Warehouse under the Forecourt from the premises of Messrs. Simpkin Marshall Hamilton & Co.

C To clear away the existing Warehouses and Porters’ Rooms under the Court Room and Anteroom and to fit up a new Kitchen and servery.

To properly light these, three windows should be opened overlooking Amen Court, and to this, as I understand from Mr. Hooper, the Dean and Chapter of St. Paul's would not offer any objection.

(Court Book g, pp. 200-201)

Watney's report concludes that the proposals are feasible, and on 30th July 1912,

the Court were informed that the General Purposes Committee and the Stockkeepers had inacted tenders for converting the Basement under the Court Room into a Kitchen Servery and for making a new entrance to the Hall as also contained in Messrs. D. Watney & Sons' report and specification of works prepared by Mr. Francis Hooper F.R.I.B.A. and that they had accepted the tender of Messrs. Holland & Hannan Builders of Hyde street Bloomsbury to execute the said works at the price of £790.

(Court Book g, p. 228)

Also recorded here is the conditional agreement of the Dean and Chapter of St. Paul's to the new windows. Hooper reports completion of the work to the Court in September 1912

(Court Book g, p. 247)

Baxter's 2016 Statement of Significance lists the following developments for 1912:

- Kitchens relocated from undercroft of Great Hall to undercroft of Court Room
- Staircase constructed from kitchen to north-west corner of Great Hall
- Double doors created, faced with 1670s panelling

(Baxter, p. 16)

However, I can't find his source for the last two points. It's quite possible that the 'new entrance to the Hall' referred to in the 30th July 1912 minutes cited above has some connection to the new staircase and double doors, but we don't have Hooper's specification of works to bear this out.

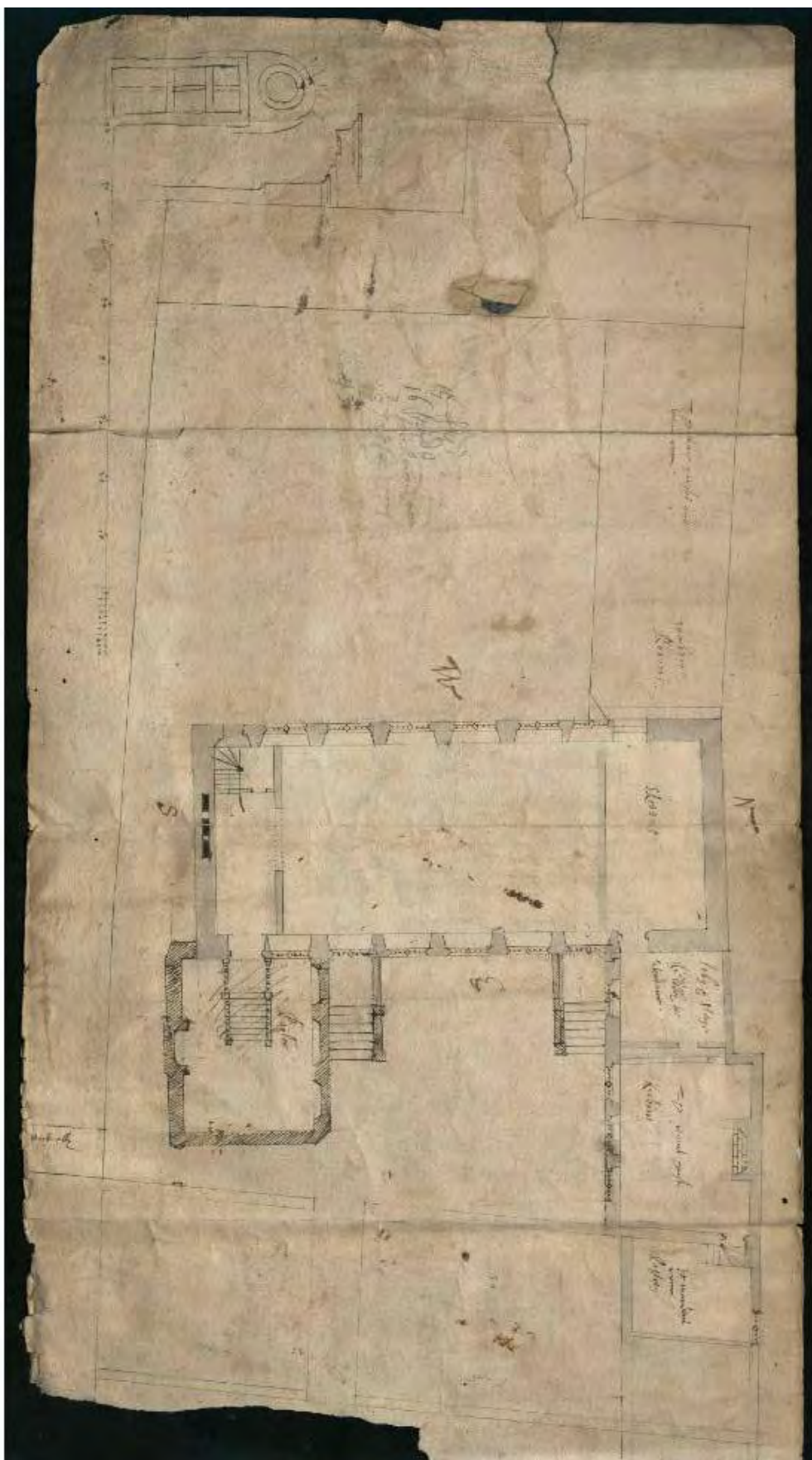


Figure 1 TSC/1/G/06/02/08 - seventeenth century plan featuring Kitchen

The Court Room

In 1754, an extension of the Court Room was proposed:

Court Book L, 3 May 1754:

The Committee being met Mr. Robinson the Surveyor attended and he having before taken a view of the Court Room and the room behind the same acquainted the Committee that both rooms might be laid into one and including a new floor would cost about forty or fifty pounds but as it would then be long and narrow and out of all proportion and the ceiling very low he did not think the alteration would answer the purpose and therefore could not recommend it to your Committee and your Committee are of the opinion not to do anything in it. Mr. Robinson further acquainted the Committee that upon this occasion he had considered how the Court Room might be improved and that the same might be done by carrying the front upon an arcade into the Garden seven feet six inches laying both rooms into one and raising the ceiling and by this means a room might be made in the clear forty feet long and 26 feet wide and the ceiling 18 feet high which would be in just proportion and sufficiently large that there would be no occasion to meddle with the warehouses under the Court Room and those over it would be more convenient than the present as they would be 8 feet high and wider by four feet than they were at present and Mr. Robinson laid before the Committee a plan and elevation of the building which is hereunto annexed.

The suggestion was not taken up, but at a Court meeting on the 7th of December 1756, 'the Court took notice that by reason of the late call of assistants the Court Room was too small and inconvenient for the reception of the members at their assemblies upon the business of the Company and that there was not any room for the admission of the Livery upon the meetings of this Company at the August Dinners or on the Lord Mayor's Day and that the Lobby was also very inconvenient to the Renter Wardens and to the Members of the Company and others whose attendance was necessary for the dispatch of their business at the monthly Courts of this Company' and another Committee was appointed to look into 'the enlargement and making more commodious [of] the Court Room and Lobby'. At a

meeting on the 11th January 1757, the Committee reported to the Court that it had once more consulted Mr. Robinson on the subject, and presented the Court with 'the plan elevation and sections' produced by Robinson to support his proposed enlargement.

Figures 2 and 3 below are Robinson's drawings, although it is not clear whether they are from the 1754 or 1757 proposal, or indeed whether there was any substantial difference between Robinson's original and subsequent plans. In any case, an agreement was drawn up between the company and Robinson in March 1757, with the drawing reproduced in Figure 4 attached. The term 'lobby' in Figures 2 and 4 seems to include the space which has now become the ante-room.

According to this agreement, Robinson was authorised 'to alter the four steps at the west end of the room and hang the door at the foot of ditto to take away the partitions between the lobby and coalhole and lay the whole open into the lobby to take out one of the sash windows and make good the wainscot as the other to put up the old wood work from the chimney in the Court Room and put single architraves around the door.' The specification of work agreed details 'the openings of the two small windows to be bricked up in manner as the front, to tye in the front to the east and west walls of the Court Room with 4 iron bars 1 inch $\frac{1}{2}$ wide and $\frac{1}{2}$ inch thick two at each end, the plane tiling to be a 7 inch gauge and with good hard la[t]ch and strong 3rd nails, to cut off[f] the present girder now in the chimney opening and set a shore under ditto and turn the trim[m]er over with brickwork, and it is agreed that the old right wainscot with the architraves and cornice and other mo[u]ldings may be the property of Mr. Robinson, in consideration that the said Robinson do finish the said Court Room arranged hereto for the finishing the said Court room as under mention, to make a whole deal dado all round the Court Room and recess into the windows, 3 foot high, and to put a proper base, plinth and cornice to ditto also to dovetail whole deal battons cross the dados, not more than 4 feet asunder and to baton all the walls with whole deal battons 3 inches wide and 1 foot asunder, and to blocks behind where vacuamsbs [vacuums?] are, in order to stif[f]en them, to make double architraves round all the windows and doors, in order to box in the Shutters with Shutts in 3 panels in h[e]ight, ovols [oval?] fronts and flush back and to be 1 inch $\frac{1}{2}$ thick, and double hung in h[e]ight and back shutts framed flush 1 inch $\frac{1}{2}$ thick.' The coving, plastering and moulding are further detailed in this document.

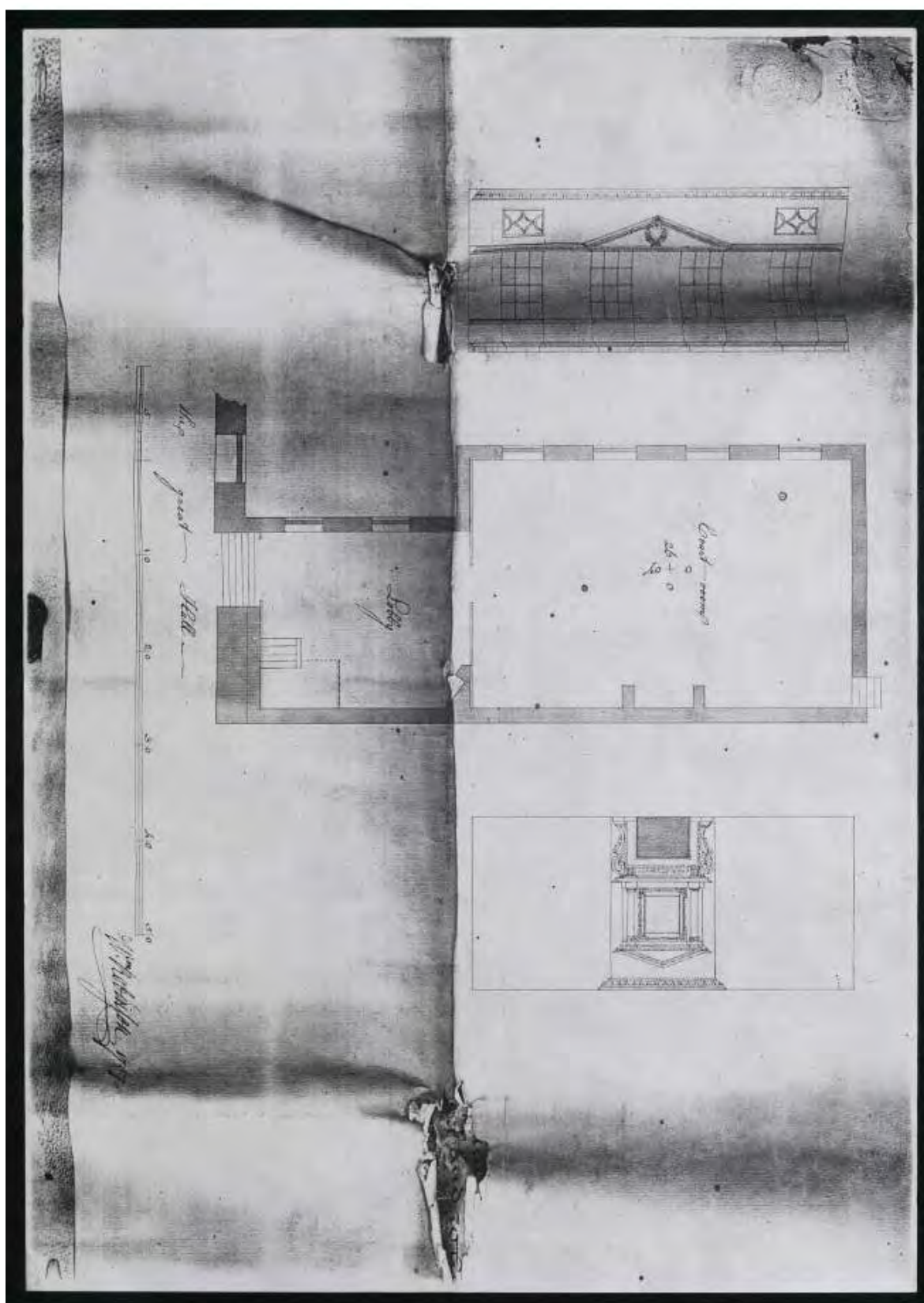


Figure 2 TSC/1/G/06/04/01/02

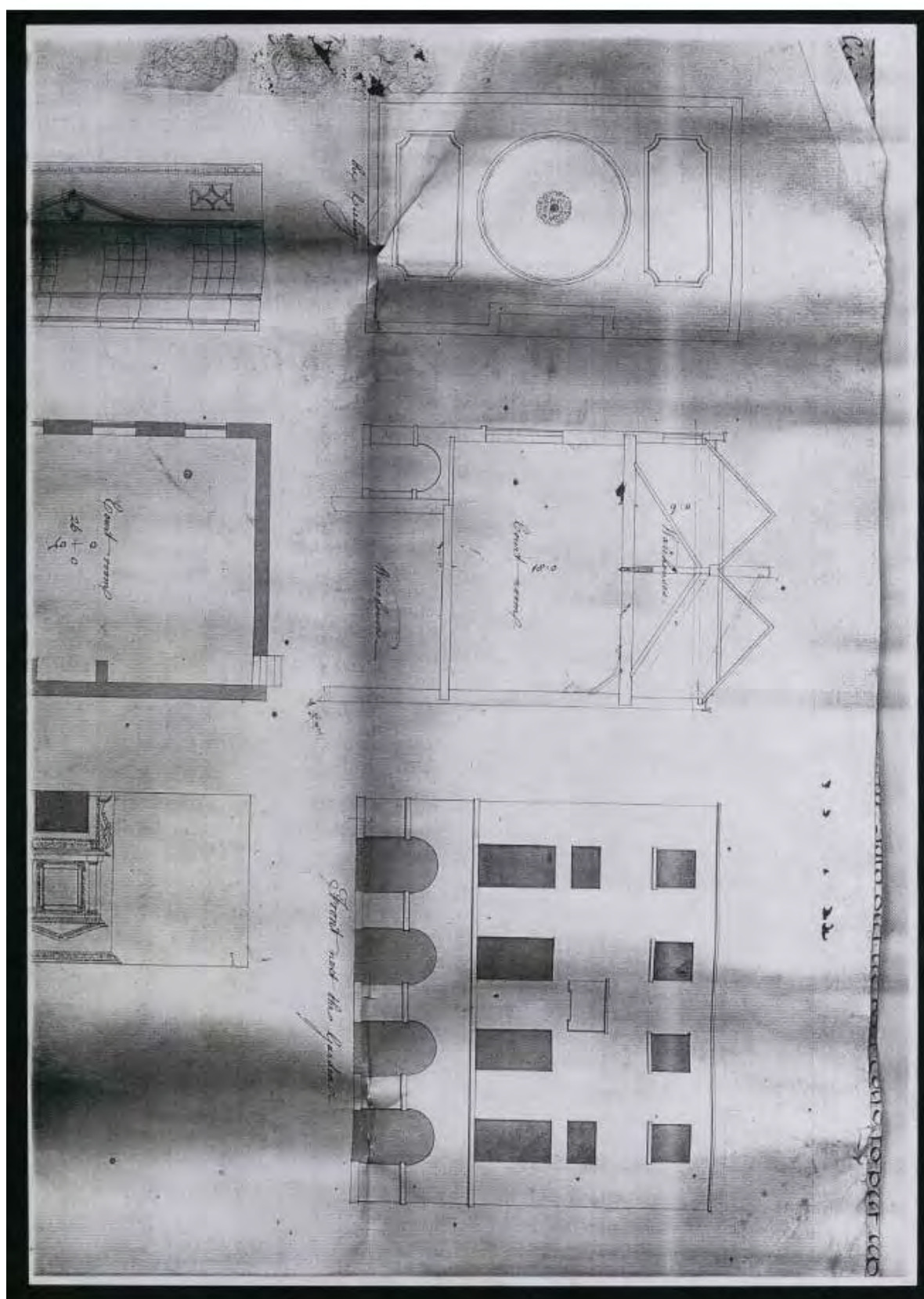


Figure 3 TSC/1/G/06/04/01/02

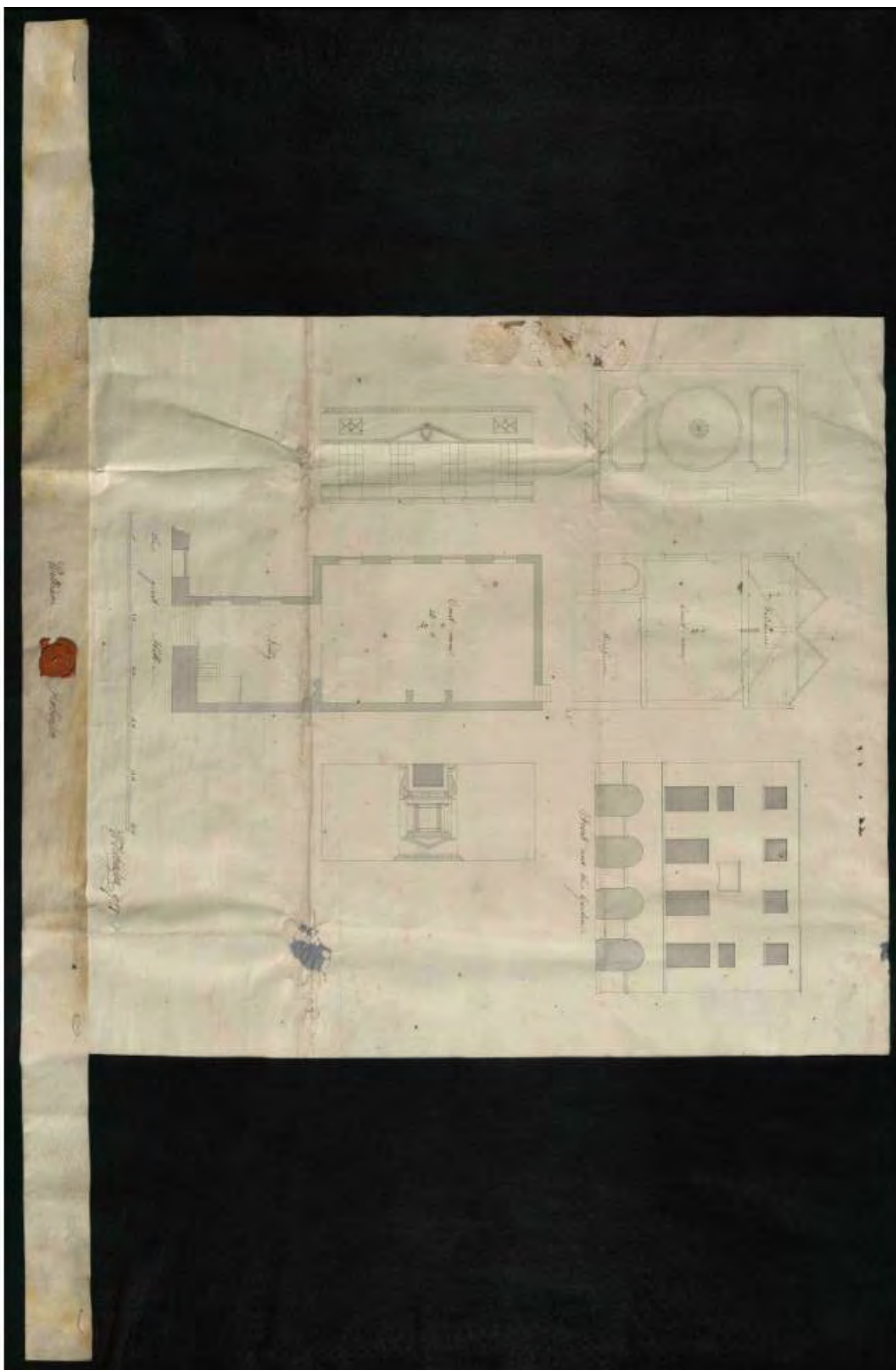


Figure 4 TSC/1/E/English Stock/G/02/Hall/02/25

In July 1805, the Building Committee reported to the Court that Mylne had put forward 'his plan for opening a way at the further end of the Court Room for the accommodation of gentlemen that were in the habit of smoking, and also forming a Water Closet; upon viewing the premises and some difficulty appearing to exist, it was deemed for the present inexpedient. [The Committee] next considered the plan for a Water Closet from the Lobby, which might be accomplished at the expense of £100, but having repeated complaints of the smallness of the Lobby, they were of opinion that it would be more desirable to enlarge the same with the addition of the Water Closet, the expense about £350.' (Court Book Q)

Space clearly remained an issue, and in 1835 Mylne's son, William Chadwell Mylne, oversaw a major extension to the west end of the Court Room with the addition of the Card Room (Court Book S, minutes 17th June 1825).

The western block suffered most damage in the bombing of the 1940s. In its reconstruction, the shape of the ante-room changed considerably: Henry Dawson's 1950 drawing (figure 5) shows an elongated octagon very different from the earlier design (see figure 6 for a plan from the late nineteenth century).

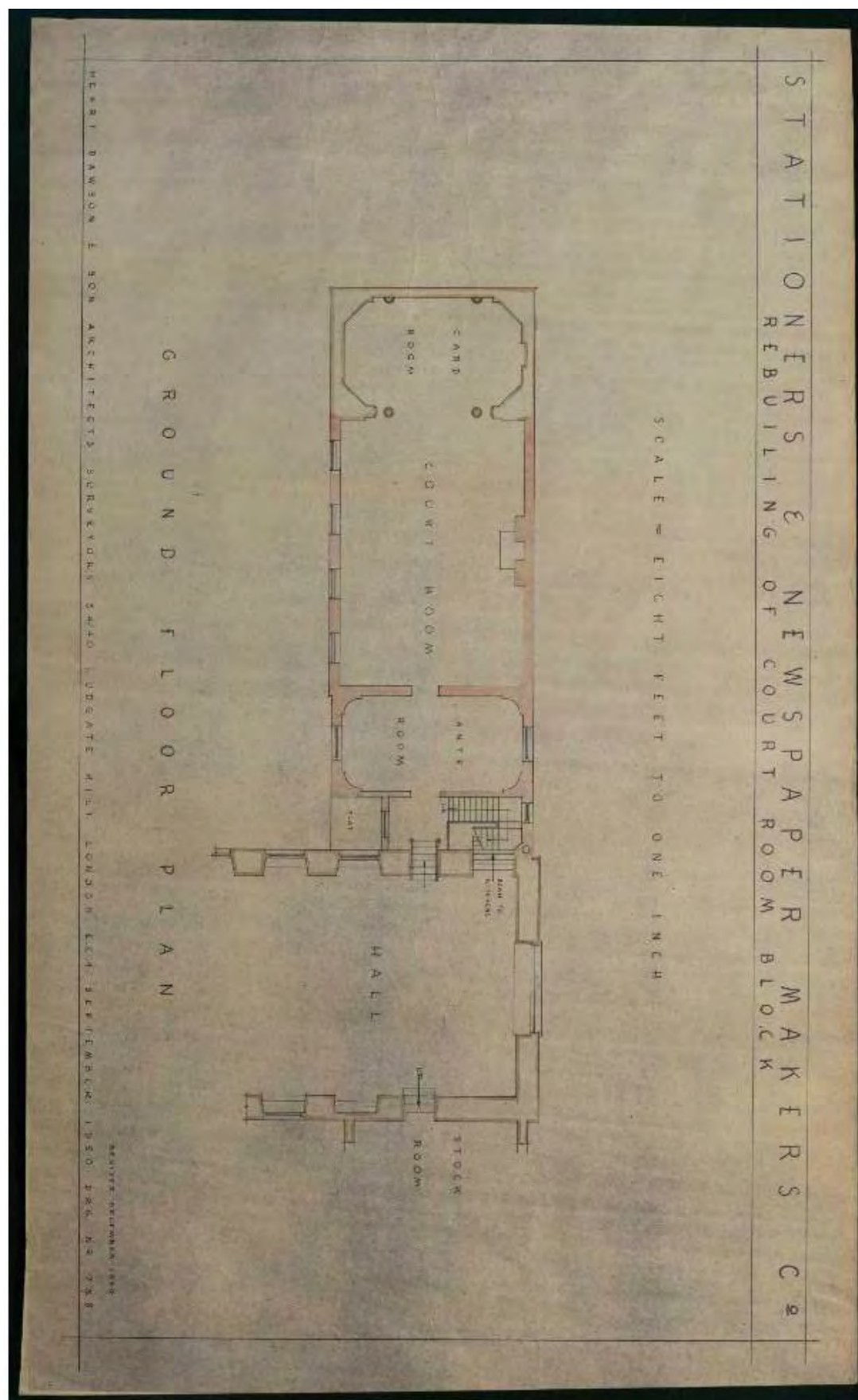


Figure 5 5 TSC/1/G/06/04/01/24

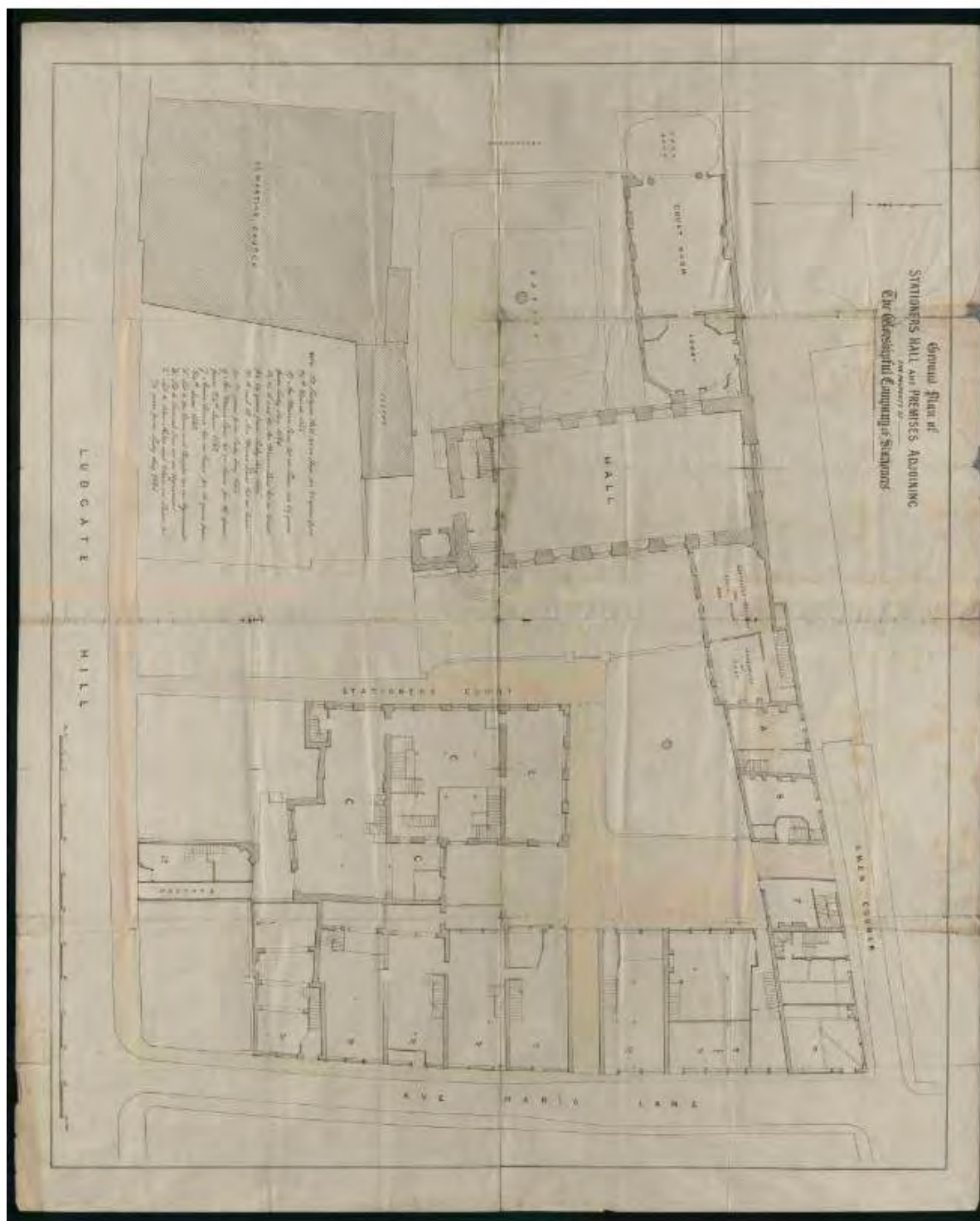


Figure 6 TSC/1/G/06/04/01/03

Hall and East Wing

At the end of the eighteenth and beginning of the nineteenth centuries, extensive work was required on the roof, exterior, windows and foundations of the Hall. The surveyor Robert Mylne reported to the Court in 1789 that the was on the East side seemed to have split, and that a new roof was required (Court Book O). In 1799 Mylne was tasked with the insertion of new windows and frames and with 'casing [the front of the Hall] with stone' (Court Book P, 10th May). In a report to the Court on 15th May 1801 by the Committee appointed to oversee this project, it is noted that 'in the course of these works it became necessary to uncover the foundation of the east and part of the west front which were found in a very decayed and ruinous state ... [the] Committee thought it advisable to direct Mr. Mylne ... to proceed immediately to a substantial repair of the said material defects.' The report also puts forward Mylne's estimate for 'a better way to convey up the dinners into the Hall under cover' although no further details of this device, or its realisation, are found in the Archive.

Information about the development of the East wing is patchy. At a meeting of the Stock Board and Finance Committee held on 8th August 1877, during a discussion of proposals for construction of a new carriageway, a letter from Robert W. Mylne is quoted as follows:

You will perceive on the plan now submitted that I propose to remove altogether the Treasurer's office and Stock Board room and construct on that area only a communication to the Hall from a New Building to be appropriated for offices and Committee rooms on the site marked on the plan.

This Block in Cubical contents is nearly the same as that now occupied by the present premises the interior of which can hereafter be designed. The Cost of the Block with Strong Rooms and all necessary fittings and beadle's residence will be about £3,500.

(Minute book, TSC/1/B/14/01, p. 112)

We don't have the accompanying plan, so it's impossible to say for sure, but from the description it does seem likely that Mylne is talking about the construction of a new East wing here. Alan Baxter's 2016 Statement of Significance states that the East wing was rebuilt

in 1885-1887, but doesn't cite any documentation. Ann Saunders's 'The Stationers' Hall' also dates the remodelling of this area to the 1880s, and it does seem highly likely that the disagreements she cites between Mylne and the Company (op. cit., p. 161; Court Book c, 2 November 1886) refer to work on this remodelling (quite possibly according to some version of Mylne's 1877 plan referenced above). As Saunders also notes, carving on the façade of the East wing is dated 1887.

Various maintenance and alteration measures are discussed in 1924, including the provision of 'a flight of Iron Stairs and Landing from Court Room window to Court Yard' (Court Book h, p. 572), but no major developments are discussed until 1935, when Messrs Henry Dawson & Sons 'submitted their report and plans respecting the proposed and alterations to the Hall ... and also a model showing the appearance of the Hall after the additions and alterations have been made'. (Court Book j, p. 316) The model itself is not in our Archive, but we do have various plans (TSC/1/G/06/04/01/14 - TSC/1/G/06/04/01/16), and a booklet circulated at the time which includes photographs of the model (TSC/1/G/06/03/03). Some of these images are reproduced below. The proposal included an extension to the length of the Hall, as well as building out into the 'rear courtyard' (garden). The ante room was to be replaced by a 'Service Room' and a Library built above this.

The Court approved the scheme 'generally' and referred it on to the Finance Committee, who, on the 5th February 1935, recommended the scheme be carried out and suggested means of raising funds (Court Book j, pp. 321-322). However, this plan isn't mentioned again; quite possibly there wasn't time to get it going before the Second World War broke out.

By 1951, bomb damage to the Hall was completely repaired (Court Book l, p. 531). Subsequent work on the Hall appears to have been maintenance rather than re-structuring. In January 1973, the Court received a report from the Arts Committee of 'completion of the partitioning of the attic room and plans for the gradual development of the proposed reference library.' (Court Book o, p. 237) Otherwise, no significant alterations have been made until this century.

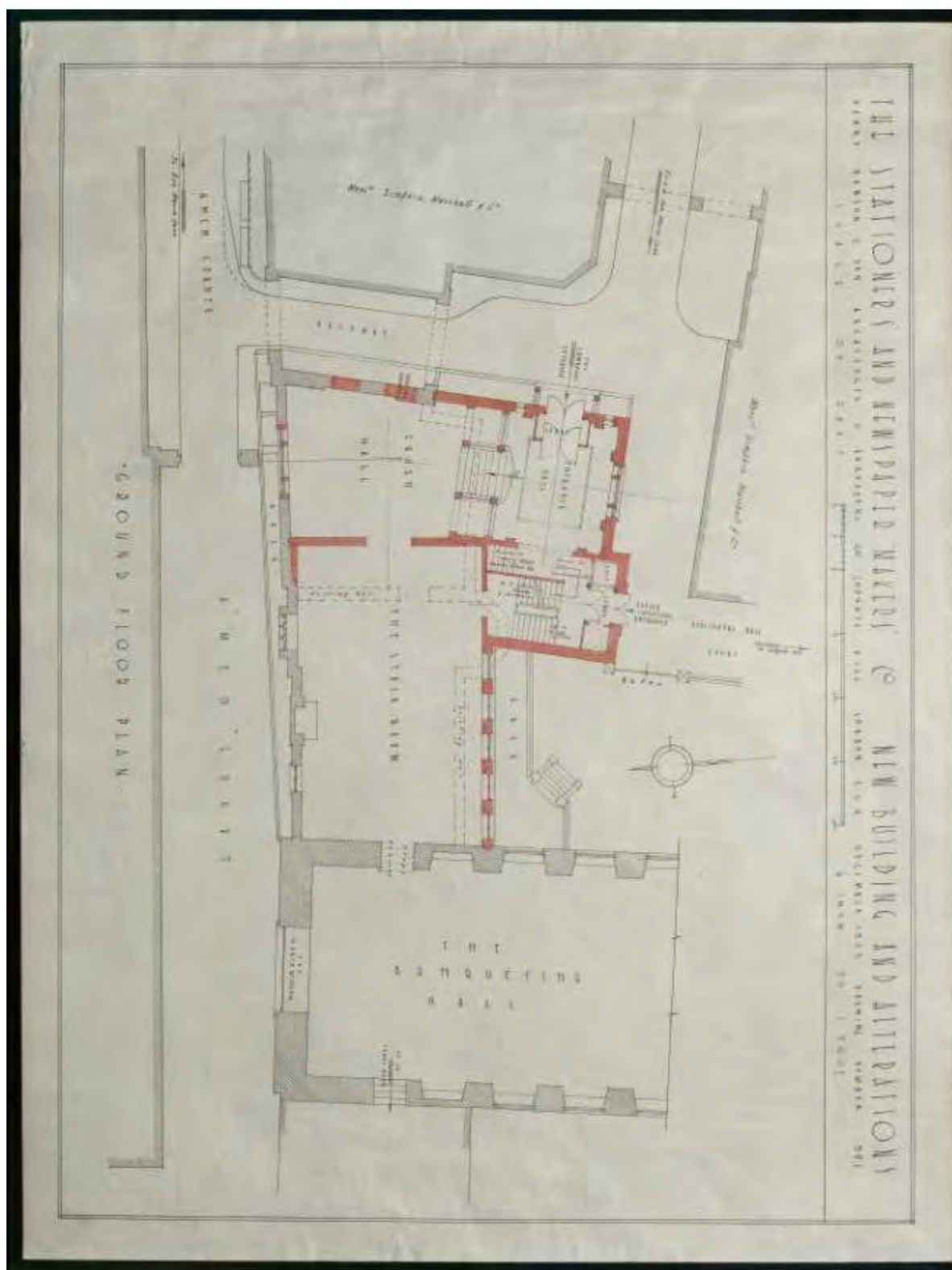


Figure 7 TSC/1/G/06/04/01/15

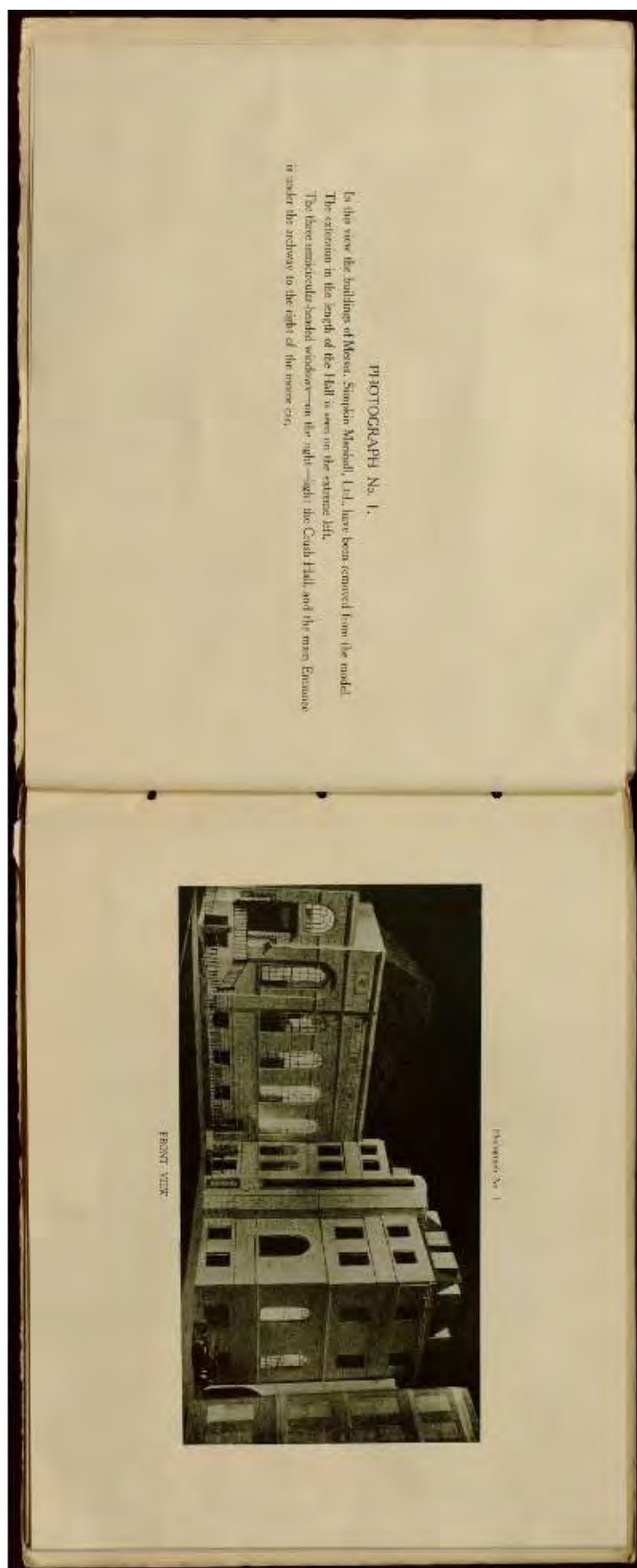


Figure 8 TSC/1/G/06/03/03



Figure 9 TSC/1/G/06/03/03

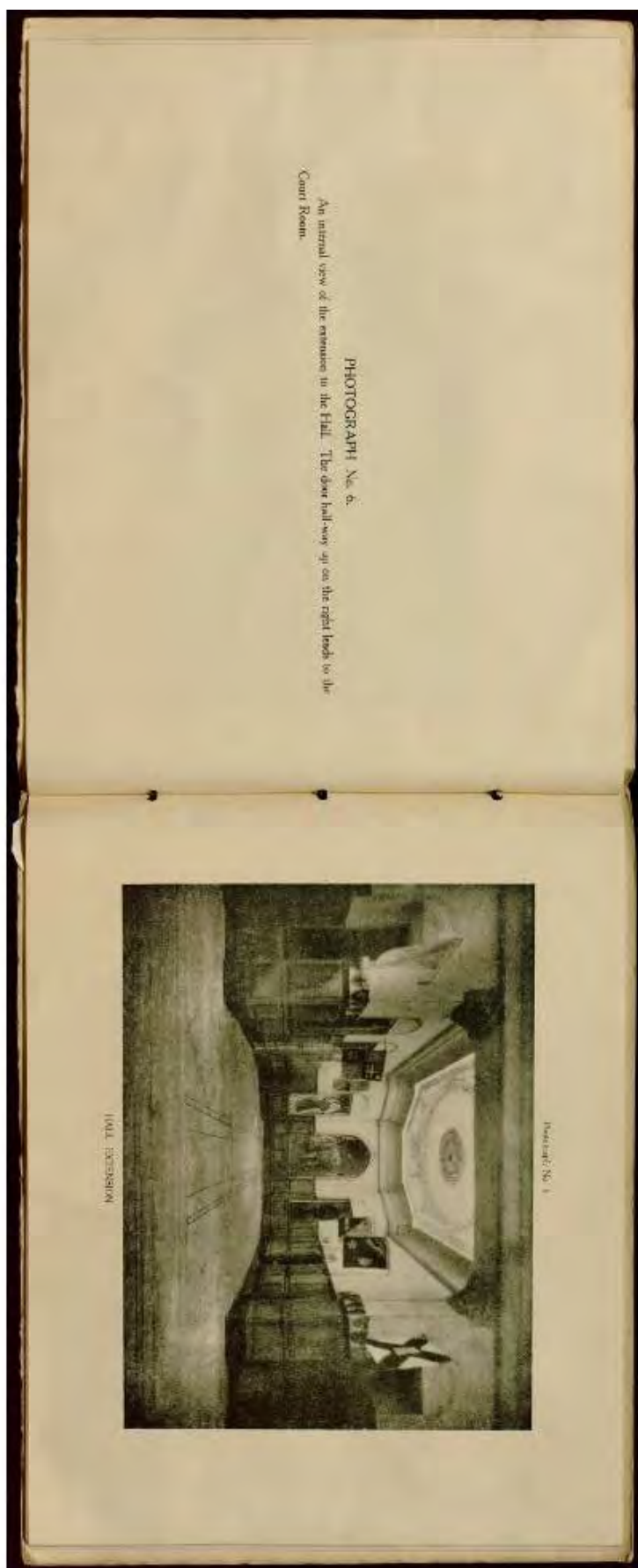


Figure 10 TSC/1/G/06/03/03

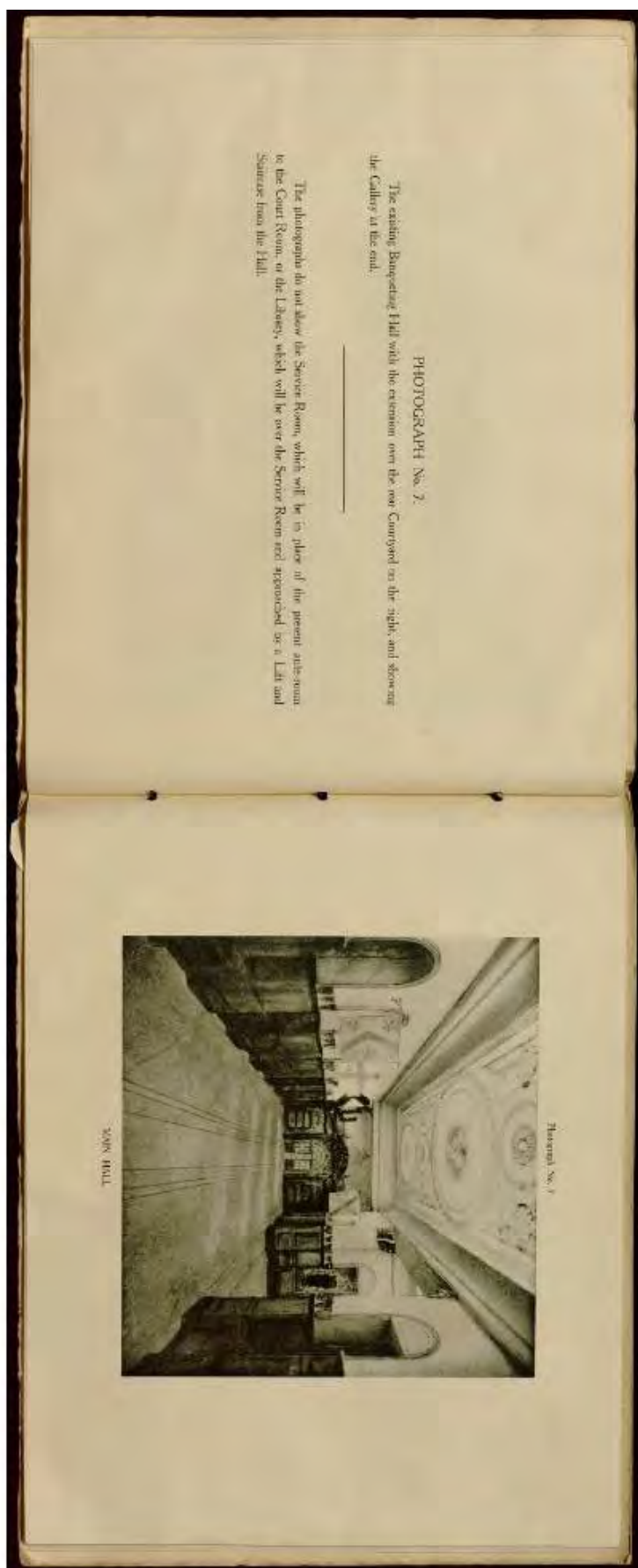


Figure 11 TSC/1/G/06/03/03

Primary Sources

TSC/1/B/01/04 - Court Book F

TSC/1/B/01/09 - Court Book L

TSC/1/B/01/12 - Court Book O

TSC/1/B/01/13 - Court Book P

TSC/1/B/01/14 - Court Book Q

TSC/1/B/01/16 - Court Book S

TSC/1/B/01/26 - Court Book c

TSC/1/B/01/30 - Court Book g

TSC/1/B/01/31 - Court Book h

TSC/1/B/01/33 - Court Book j

TSC/1/B/01/35 - Court Book l

TSC/1/B/01/38 - Court Book o

TSC/1/E/English Stock/G/02/Hall/02/25 - Agreement for the enlargement of the court room and lobby, with additional documents. 1 Mar-21 Jun 1757

TSC/1/G/06/02/08 - Plans of Stationers' Hall and gardens, mid 17th century-c.1800

TSC/1/G/06/03/03 - Stationers' Hall Proposed Alterations and Improvements, 1935

TSC/1/G/06/04/01/02 - Court room alterations

TSC/1/G/06/04/01/14 - TSC/1/G/06/04/01/16 - Plans of 1935 proposed alterations

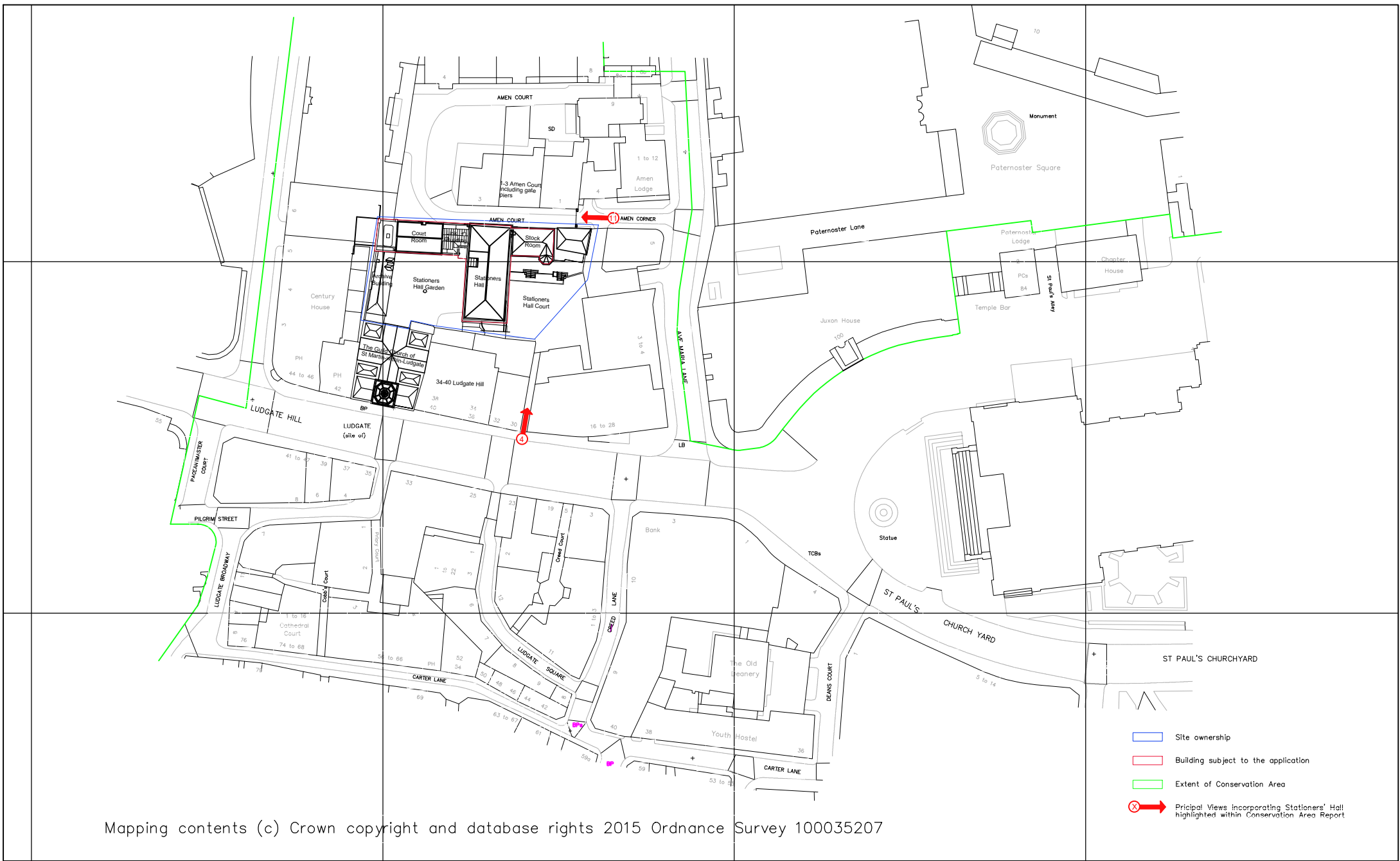
TSC/1/G/06/04/01/24 - Rebuilding of courtroom block, 1950

TSC/1/G/06/04/01/03 - Ground plan of Stationers' Hall & premises adjoining, c.1870

Secondary Sources

Baxter, Alan, Stationers' Hall Statement of Significance Prepared for Peregrine Bryant Architects. April 2016

Saunders, Ann, 'The Stationers' Hall', in Myers, Robin (ed) The Stationers' Company: A History of the Later Years (2001)



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Stationers' Hall
Statement of Significance
Prepared for Peregrine Bryant Architects
April 2016



Stationers' Hall

Statement of Significance

Prepared for Peregrine Bryant Architects

April 2016

Contents

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Site plan, showing Stationers' Hall in blue

1.0

Introduction

This report has been commissioned by Peregrine Bryant Architects from Alan Baxter Ltd to inform a feasibility study. The aim of the feasibility study is to help the Worshipful Company of Stationers and Newspaper Makers make the best use of their site, the Grade I-listed Stationers' Hall in the City of London. The Worshipful Company is also exploring possibilities for a partnership with the adjacent church of St Martin Ludgate.

This report summarises the history (Chapter 2.0) and significance (Chapter 3.0) of the site, culminating in a series of colour-coded drawings (Age of Fabric, pp. 22-26 and Significance, pp. 33-37). The reader may find it useful to refer to these drawings throughout. The analysis is based on a critical review of the sources listed in Chapter 4.0 and on several site visits to inspect the fabric of the buildings undertaken in 2015.

This report represents the current understanding of the site and may be capable of refinement as further information comes to light.

2.0 History of the site

2.1 Introduction to the site

Stationers' Hall is situated in the heart of the City of London near St Paul's Cathedral.

The site comprises a series of interconnected buildings arranged around two courtyards. The eastern courtyard, Stationers' Hall Court, is publicly accessible from Ludgate Hill along a narrow alley, or from Ave Maria Lane through a vehicle entrance. The western courtyard is a garden, the south side of which is formed by the church of St Martin Ludgate.

The history of the Stationer's Hall site is long and complex. The aim of this chapter is to summarise this history in a useful form, by highlighting the principal phases of construction and alteration up to the present. The reader is referred to the Age of Fabric drawings on pp. 22-26).



Stationers' Hall Court, looking west toward Great Hall



Garden, looking south toward St Martin Ludgate

2.2 The Environs of Stationers' Hall

by Robin Myers, Honorary Archivist Emeritus

It is no accident that the Stationers' Hall is situated in what was formerly the heart of the book trade. When the guild was formed in 1403, Paternoster Row and St Paul's Churchyard teemed with textwriters, manuscript illuminators and bookbinders for a market that was overwhelmingly clerical. In 1500 Caxton's two apprentices, Richard Pynson and Wynkyn de Worde, set up printing workshops in the City of London (Caxton's press had been in Westminster) and, in order to legally sell books in the City became Freemen of the Stationers' guild.

After the dissolution of the monasteries in 1536-41, buildings around St Paul's Cathedral were seized by the Crown and sold mainly to booksellers. The Stationers' guild moved into its first Hall in St Paul's Churchyard in 1554 and its archive of documents dates from this point (see 3.5). Professor Arber's list of London printers for the year 1556 reveals that, of the 32 booksellers and printers then living in London, no less than 15 lived in St. Paul's Churchyard, five others in close proximity, eight in Fleet Street, two in Lombard Street, one in Aldersgate, and another in a locality unknown. First editions of Shakespeare's *Venus and Adonis*, *Rape of Lucrece*, *Merry Wives of Windsor*, *The Merchant of Venice*, *Richard II*, *Richard III*, *Troilus and Cressida*, *Titus Andronicus* and *Lear* all bear St Paul's Churchyard imprints. George IV's biographer tells us that Queen Charlotte was in the habit of paying visits, in company with some lady-in-waiting, to Holywell Street and Ludgate Hill, 'where second-hand books were exposed for sale during the last half of the eighteenth century.'

By the nineteenth and twentieth century most of the major publishing houses were located in the area but this came to an abrupt end during the blitz in 1940.



An artist's impression of the St Paul's area in the sixteenth century, by H. W. Brewer, 1895

Chronology

c. 200

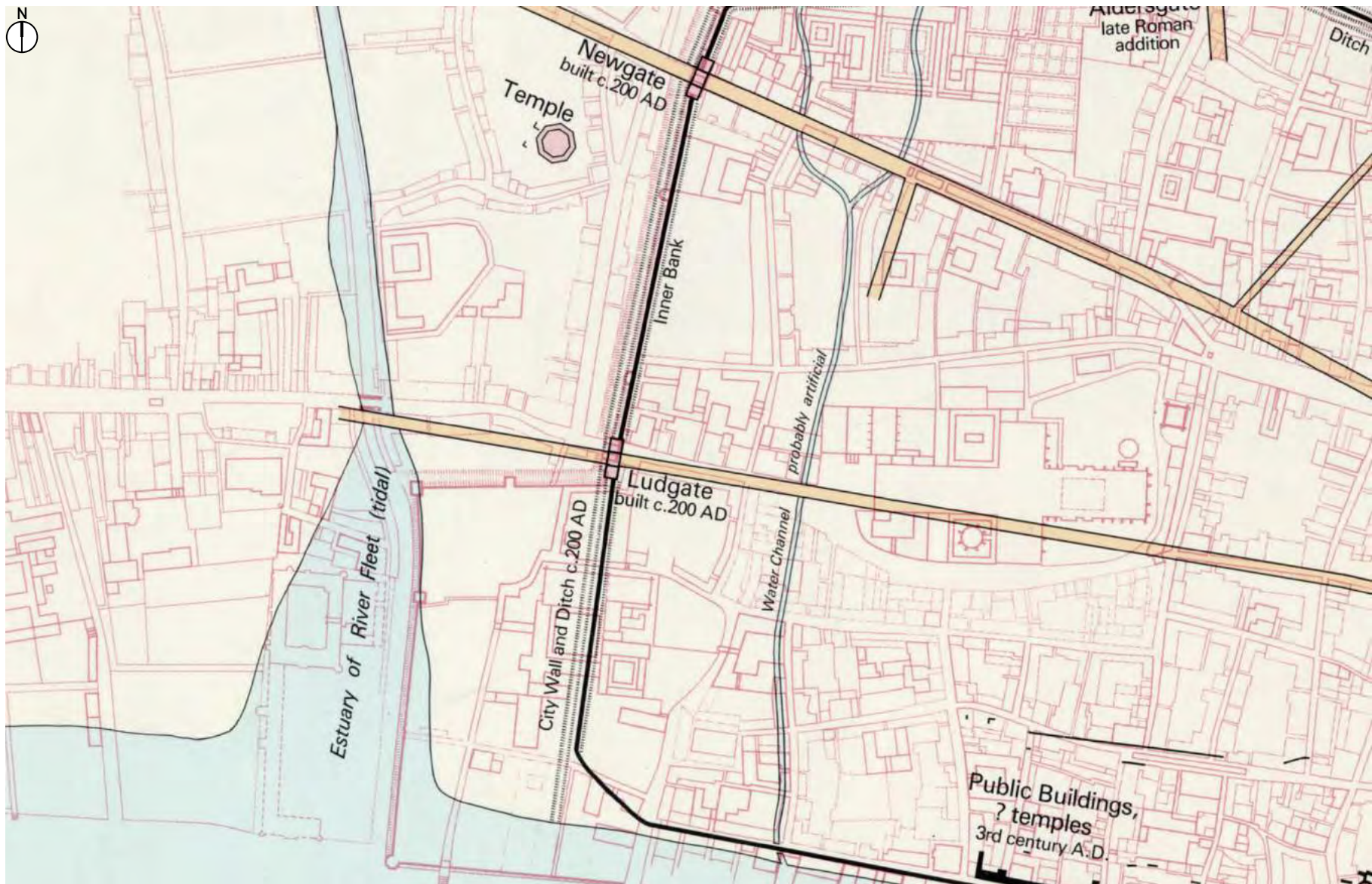
- Construction of Roman City wall along western part of site (see drawing, p. 21)
- Principal material: Kentish ragstone



Roman wall with tile courses, crypt of St Martin Ludgate, looking west



Medieval and later parts of city wall in Amen Court. Photo looking south, with the rear wall of Stationers' Hall (Card Room) visible on the left



Roman London: reconstructed map [from Lobel, 1989], showing the Roman Wall (compare with p. 7)

1100-1611

- Construction of the original St Martin Ludgate (first mentioned c. 1138; expanded 1425)
- Construction of courtyard house on the site of Stationers' Hall, known successively as Brittany Inn, Pembroke's Inn and Abergavenny House through changing ownership
- Abergavenny House purchased by the Stationers' Company 1611, who converted 'the stone-work into a new faire frame of timber' (Stow, 1633)



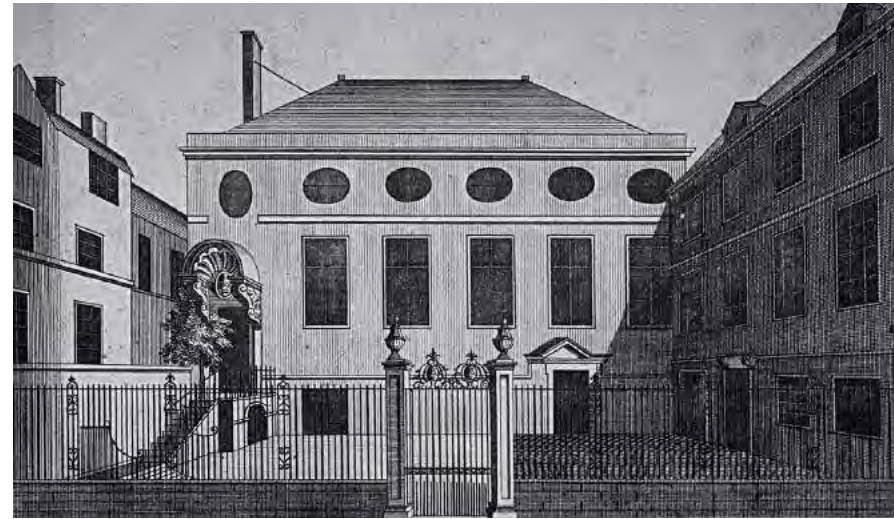
Artist's impression of Abergavenny House circa 1600, by Peter Jackson, with the Roman City wall visible at upper left



c. 1520: reconstructed map (from Lobel, 1989), showing Pembroke's Inn, which would later become the site of Stationer's Hall (centre)

1670s-90s

- Site rebuilt following damage in the Great Fire of London, 1666
- Construction of present Great Hall (on the site of Abergavenny House) and the original Court Room, 1670-74
- Construction of the original Stock Room, c. 1674-76
- Construction of storehouse (now Admin Block), between 1676 and c. 1700
- Rebuilding of St Martin Ludgate, 1677-86



East front of Great Hall, with the original East Wing, containing the Stock Room, to the right (engraved 1756)



Stock Room interior, showing the present panelling in its original configuration (photographed 1880)



1676: Ogilby and Morgan's map. The present-day freehold boundary (approx.) is shown in red. The larger rectangle is the Great Hall, with the Court Room to the west and the Stock Room to the east

1757

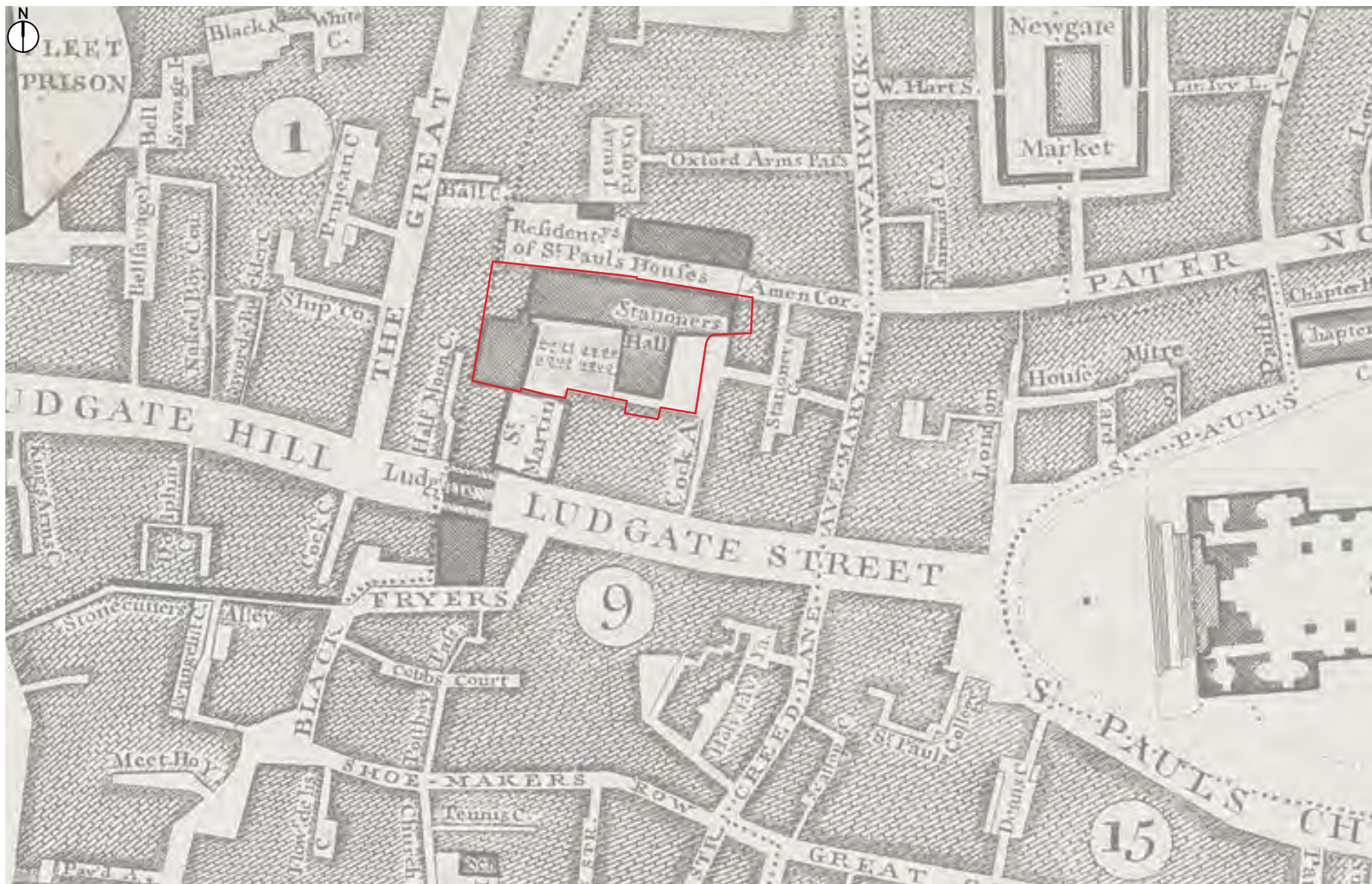
- Reconstruction of interior of Court Room
- Designed by William Robinson
- Rococo style interiors with plasterwork overmantel and cove
- Chimneypiece of c. 1730 salvaged from original Court Room



Court Room, with Card Room beyond (photographed 1903)



Court Room as reconstructed in the 1950s



1746: Rocque's map, showing the layout of the Garden and, on its west side, the late seventeenth-century storehouse (now Admin Block)

1800s

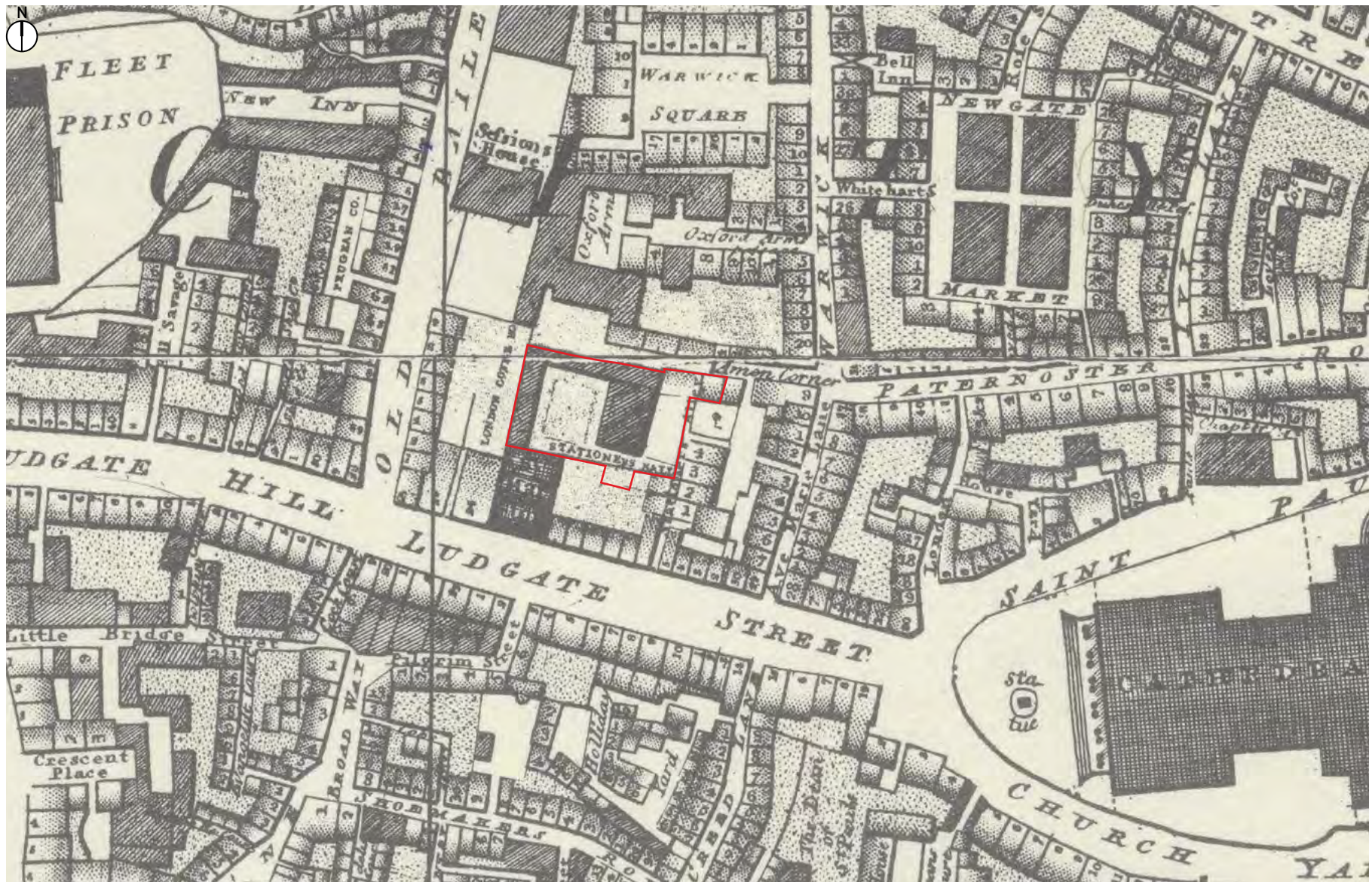
- Remodelling of Great Hall, 1800-1801
- Designed by Robert Mylne
- Neoclassical style re-cladding of east elevation with reliefs in Coade stone
- Neoclassical style replacement plasterwork ceiling with painted panels
- Windows altered from rectangular openings to arched openings
- Construction of Card Room by W. C. Mylne, 1825



Mylne's refacing as drawn by George Shepherd in 1810



Great Hall interior showing 1670s panelling and Mylne's coved ceiling of 1801



1815: Horwood's map. The Ludgate had been demolished in 1760.

1887

- Rebuilding of East Wing, 1885-87
- Designed by W. R. Mylne
- Seventeenth-century panelling from the original Stock Room incorporated into new Stock Room
- New plasterwork ceiling



East Wing in 1929, showing railings removed in the late twentieth century



The Stock Room today, showing the re-used panelling



1895: Ordnance Survey map (large-scale), showing the new East Wing at upper right

1912

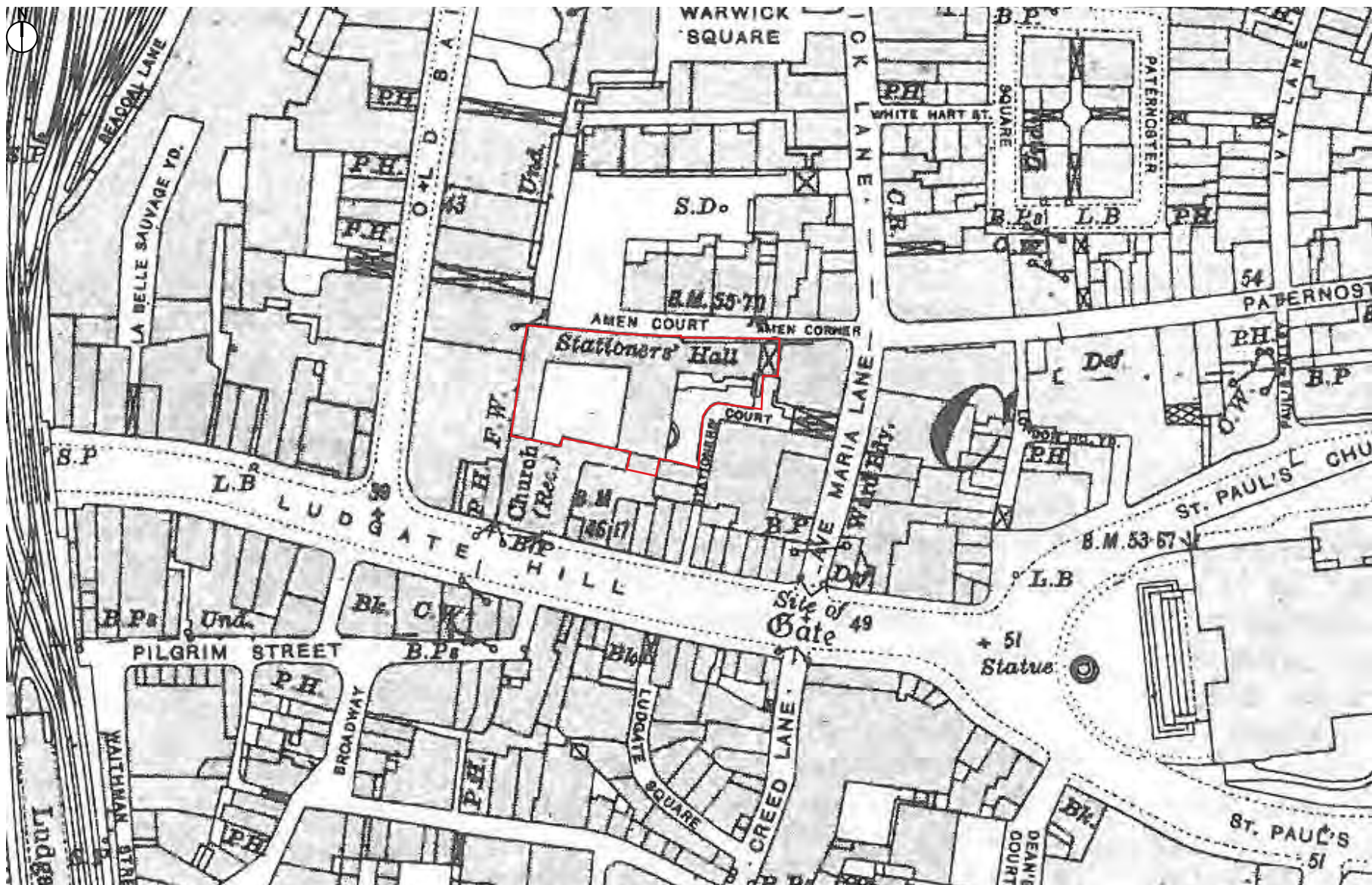
- Kitchens relocated from undercroft of Great Hall to undercroft of Court Room
- Staircase constructed from kitchen to north-west corner of Great Hall
- Double doors created, faced with 1670s panelling



North-west corner of Great Hall, showing (right) the 1912 staircase and doors that incorporate 1670s panelling



Staircase of 1912 (as reconstructed in the 1950s), looking up to Great Hall



1914: Ordnance Survey map

1950s

- Reconstruction following damage in the Second World War
- Designed by Henry Dawson and Son, 1950s
- Court Room rebuilt re-using the plasterwork
- Oval Card Room replaced by octagonal Ante Room with new plasterwork
- Alterations since the 1950s include the construction of an attic at the north end of the Admin Block (1971) and the re-landscaping of the garden (c. 2000)



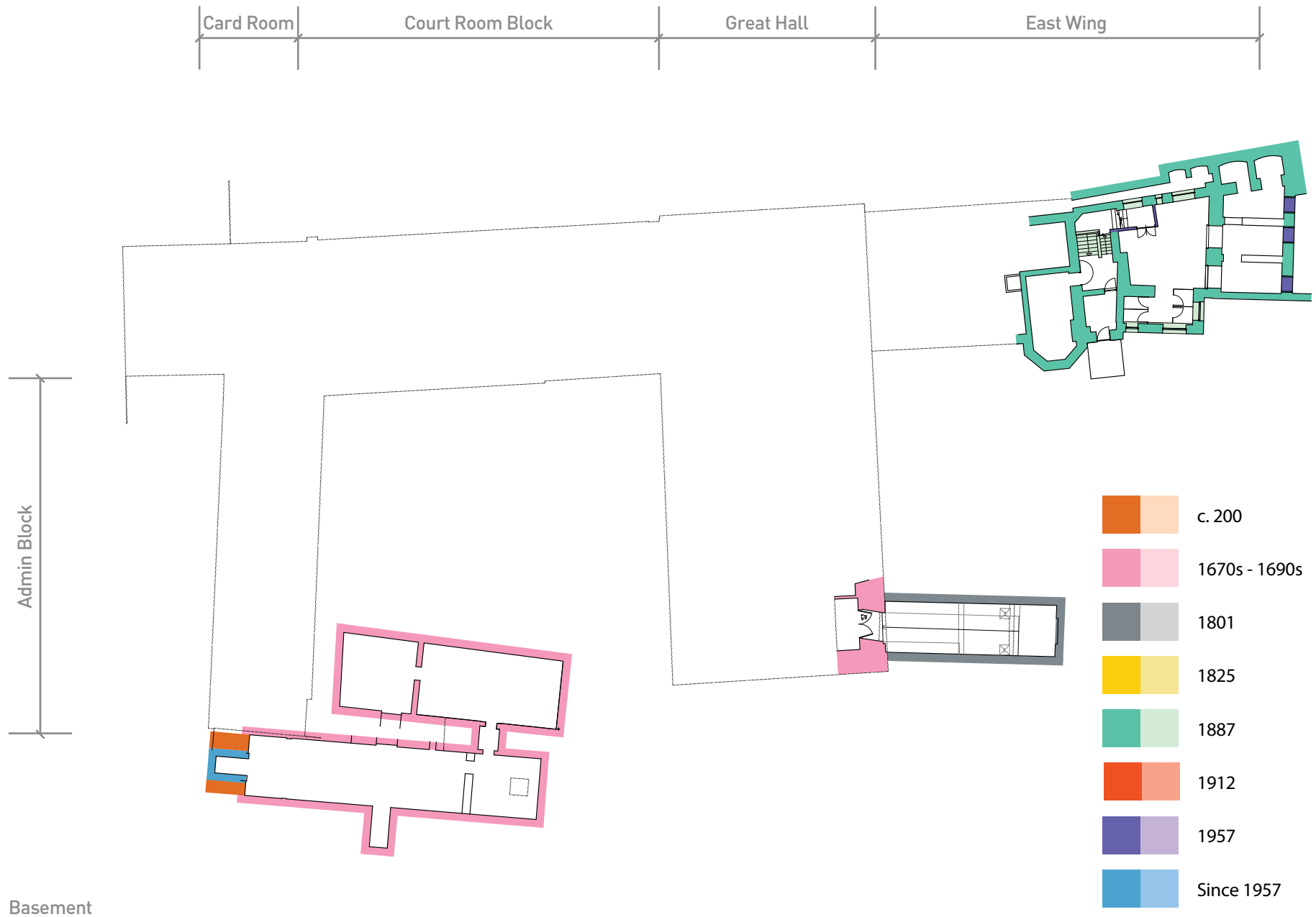
Court Room following salvage of plasterwork and prior to demolition



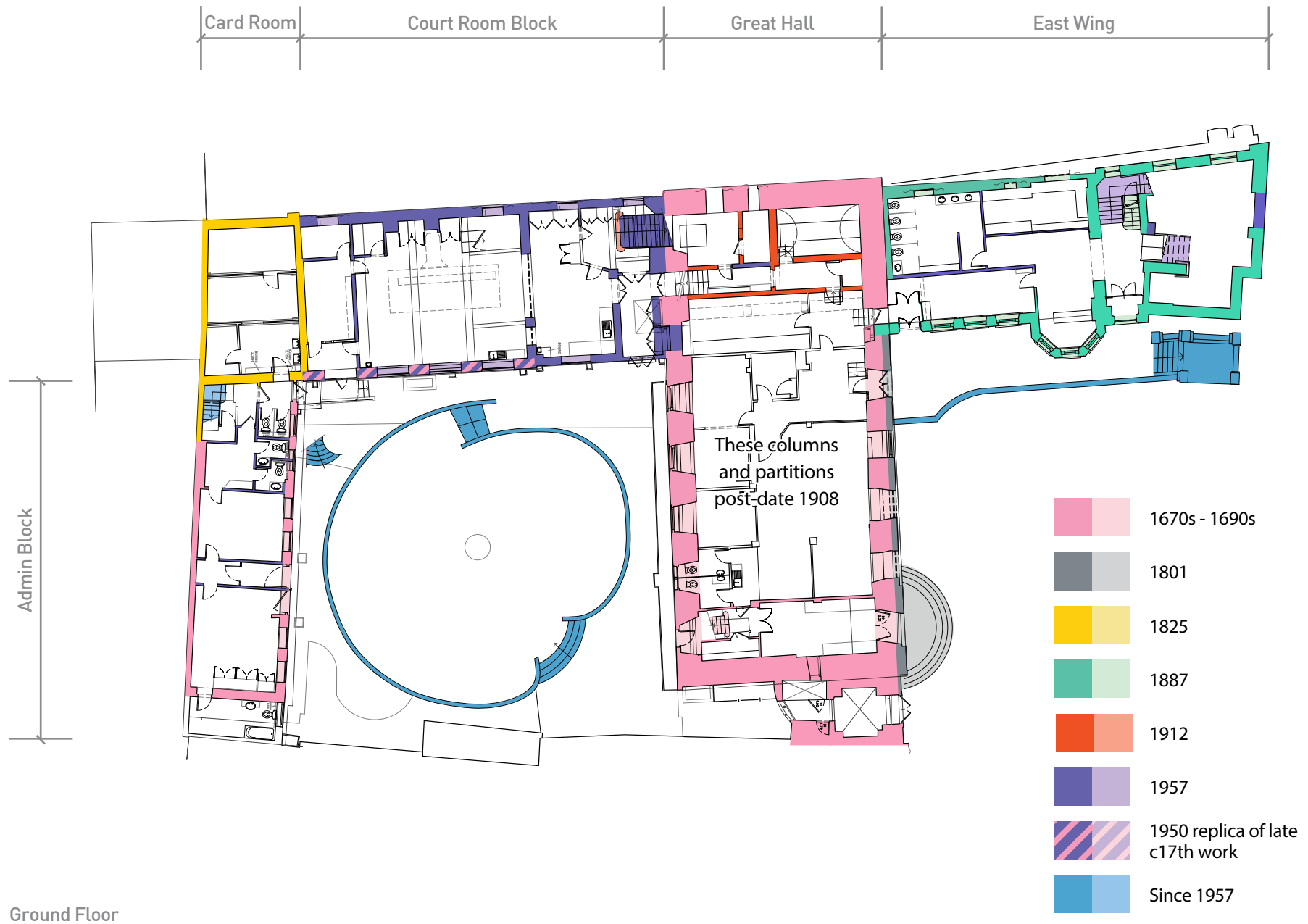
1950s link block, with travertine-lined staircase

2.3 Age of Fabric Drawings

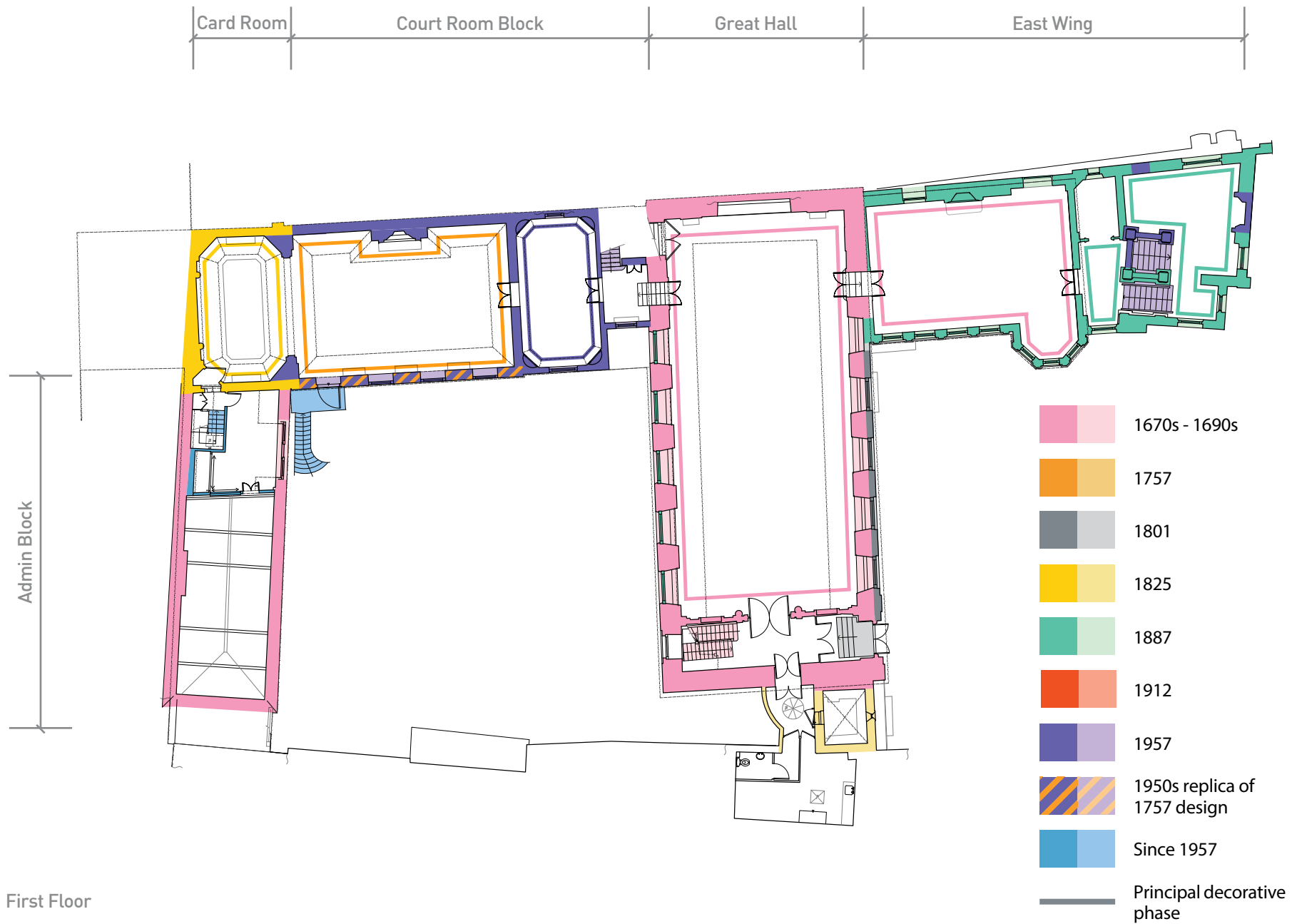
The Stationers' Hall as it stands today is an extremely complex multi-phased site, displaying elements from every phase in its long history. The known extent of each of the principal phases of construction and alteration is summarised in these drawings. They are intended as a general guide rather than a definitive statement.



2.0 History of the Site



Ground Floor







3.0 Assessment of Significance

3.1 Assessing Significance

This chapter distils the historical analysis outlined in Chapter 2 into an assessment of the 'significance' of the site and its constituent components.

'Significance' is the means by which the cultural importance of a place is identified and articulated. The identification of elements of high and lower significance, based on a thorough understanding of the site, enables owners and designers to develop proposals that safeguard, respect and where possible enhance the character and cultural values of the site.

Statutory designation is the legal mechanism by which significant historic places are identified in order to protect them. The designations applying to the site are listed below (see 4.2). However, it is necessary to go beyond these designations to arrive at a more detailed and broader understanding of significance. This is achieved here by using the terminology and criteria from the National Planning Policy Framework (NPPF, adopted 2012).

Annex 2 of the NPPF defines 'significance' as:

The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.

Historic England's *Conservation Principles, Policies and Guidance* (2008) includes a methodology for assessing significance by considering 'heritage values'. In this instance NPPF terms are used because their adoption simplifies the preparation and assessment of planning and listed building consent applications, but the equivalent HE heritage values are given in brackets for reference.

Annex 2 of NPPF defines **archaeological interest** ['**evidential value**'] in the following way:

There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

DCLG has previously (in PPS5) given these definitions for the other types of interest:

- **Architectural and Artistic Interest** ['**aesthetic value**']: *These are the interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture.*
- **Historic Interest** ['**historical value**']: *An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history, but can also provide an emotional meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity* ['**communal value**'].

The assessment of significance is usually an amalgam of these different interests, and the balance between them will vary from one case to the next. What is important is that all these interests have been considered.

This assessment begins below with a summary of statutory designations, followed by a statement of significance covering the different kinds of interest set out above, and, lastly, a more detailed assessment expressed using colour-coded plans. The reader may find it useful to refer to these throughout.

3.2 Designations

There are several designations that apply to the site. Stationers' Hall is:

- A scheduled monument
- Listed at Grade I
- Within the St Paul's Cathedral Conservation Area
- Within the St Paul's Heights Policy Area

St Martin Ludgate is:

- Listed at Grade I
- Subject to Ecclesiastical Exemption from Listed Building Consent

The Roman Wall is:

- A scheduled monument



Heritage designations as shown on the City of London's online interactive map

3.3 Statement of Significance

3.3.1 Archaeological interest

Archaeological analysis is outside the scope of this report. However, it is clear from the history of the site that there is high archaeological potential, for example due to its proximity to the Roman (and later) city walls and because the Hall has its origins in a medieval courtyard house, known variously as Brittany Inn, Pembroke's Inn or Abergavenny House. There are standing remains of the city wall visible in the crypt of St Martin Ludgate and above ground in Amen Court. The walls of the hall of the medieval house may partly survive within the lower walls of the present Great Hall, which have a chalk stone core as observed by the Royal Commission on Historical Monuments (1929).

3.3.2 Historic Interest

The historic interest of the site is extremely high, first and foremost because of the sustained role that it has played in the book trade and related professions since its acquisition by the Stationers in 1611. Stationers' Hall was once the 'headquarters' of a network of book sellers and publishers, which once stretched eastward along Paternoster Row and into the surrounding streets. This district was established in the medieval period due to proximity to St Paul's Cathedral and came to an end in the aftermath of the incendiary raids of 1940, in which an estimated five million books were destroyed.

During this long period the Stationers played a pivotal role in the transition from handwritten manuscripts to printed books, developed and controlled (until 1911) the concept of copyright, and ran a highly successful joint stock publishing company.

The Hall now stands as a witness to this long history and its name can still be found in the countless books printed before 1911 that bear the words 'Entered at Stationers Hall'. These historical strands continue into the present and the stated aim of the Worshipful Company today is to be the 'most effective independent forum in the UK Communications and Content industries.'

Secondly, the site has considerable historic interest due to its pre-1611 use as an aristocratic mansion, carrying as it does associations with successive owners including John of Brittany, Earl of Richmond (c. 1266-1334), Mary de St Pol, Countess of Pembroke (c.1304–1377) and Henry Nevill, sixth Lord Abergavenny (d. 1587). These associations are strengthened by the fact that the present layout of the site appears to descend directly from that of the medieval house.

3.3.3 Architectural and Artistic Interest

The architectural interest of the site is high for its overall layout, which represents one of the principal examples of a specialised building type: the livery hall complex, which is specific to the City of London.

But, when looked at more closely as a series of connected buildings and spaces, the site's architectural and artistic interest can be seen to vary, according to design quality and other factors.

The **East Block** of 1887 by the little-known architect R. W. Mylne has *medium significance* as a good-quality example of Victorian eclecticism, given a festive Northern Renaissance treatment, although interestingly the accommodation wing is deliberately left externally plain. The interiors vary in quality and importance, from the Stock Room with its exquisite seventeenth-century panelling (*high significance*) to the grand, ceremonial entrance spaces (*medium significance*) to the well-finished back-of house areas (*moderate significance*, or *neutral* where they are extensively modernised).

The **Great Hall** of 1670-74 possesses *high significance* as the direct successor to the hall of the medieval house and the most important room in the life of the Stationers' Company. This level of significance extends to the entire exterior, including the refined east front by Robert Mylne and the west front, which preserves the 1670s form underneath a layer of render. Internally, the principal space, with its fine seventeenth-century panelling, has *high significance*. However, the undercroft has been modernised with the insertion of linings and partitions, and these spaces are therefore of *neutral* significance in their current form.

The **Court Room Block** is, essentially, a 1950s replica of the building that was damaged during the Second World War and its external form is therefore of *high significance*. Internally, the 1950s interior is a scholarly recreation of the 1757 interior, with some minor alterations, and is therefore also of *high significance*, particularly for its fine rococo plasterwork which was carefully salvaged by the architects. Indeed, the 1950s Court Room is remarkable for how successfully it recreates a fine Georgian interior. The adjoining **Card Room** is the principal survivor of W. C. Mylne's work in 1825 and possesses *high significance* for its decorative and spatial qualities including the octagonal lantern. The two columns inserted in 1825 to divide it from the Court Room were not reinstated in the 1950s and their absence does *detract* from the spatial sequence. Above these rooms are the archive and library, which are plain interiors of no interest and are therefore *neutral*.

The two easternmost rooms of the Court Room Block constitute the **1950s link block**, which did not replicate anything that had gone before. Its plain Neo-Georgian exterior is sensitively designed yet of no particular distinction and is therefore *neutral*. Inside, the travertine-lined stair compartment and the classically treated, octagonal Ante Room are more distinctive and therefore possess *moderate significance*, but the plain, back-of house areas are *neutral*.

A quirk of the link block is the staircase leading up from the basement into the north-east corner of the Great Hall, which dates partly from the 1950s but reuses parts of an iron staircase put here in 1912 (to serve the relocated kitchens); this staircase has no particular claims to interest and is therefore *neutral*.

The **Admin Block** on the west side of the Garden is an extremely rare survival: a late seventeenth-century warehouse in the City of London. It is the only one of its kind. It is also the only building of its period within Central London to retain its cross windows (which were typically replaced with sash windows). It is therefore of *high significance* for its overall form, though the interiors have been extensively modernised and are therefore of *neutral* significance in their current form. The attic with two dormer windows dates from 1971 and detracts from the overall form.

A detailed study of the **art and furniture** collections is outside the scope of this document. But, it is clear that some of the furniture and works of art add considerably to the significance of the site. Of considerable importance in this regard is the late seventeenth century furniture, including the carved oak Livery cupboards in the Great Hall and the oak tables and benches, some of which are in the archive store. The archive is discussed in section 3.5 (p. 37).



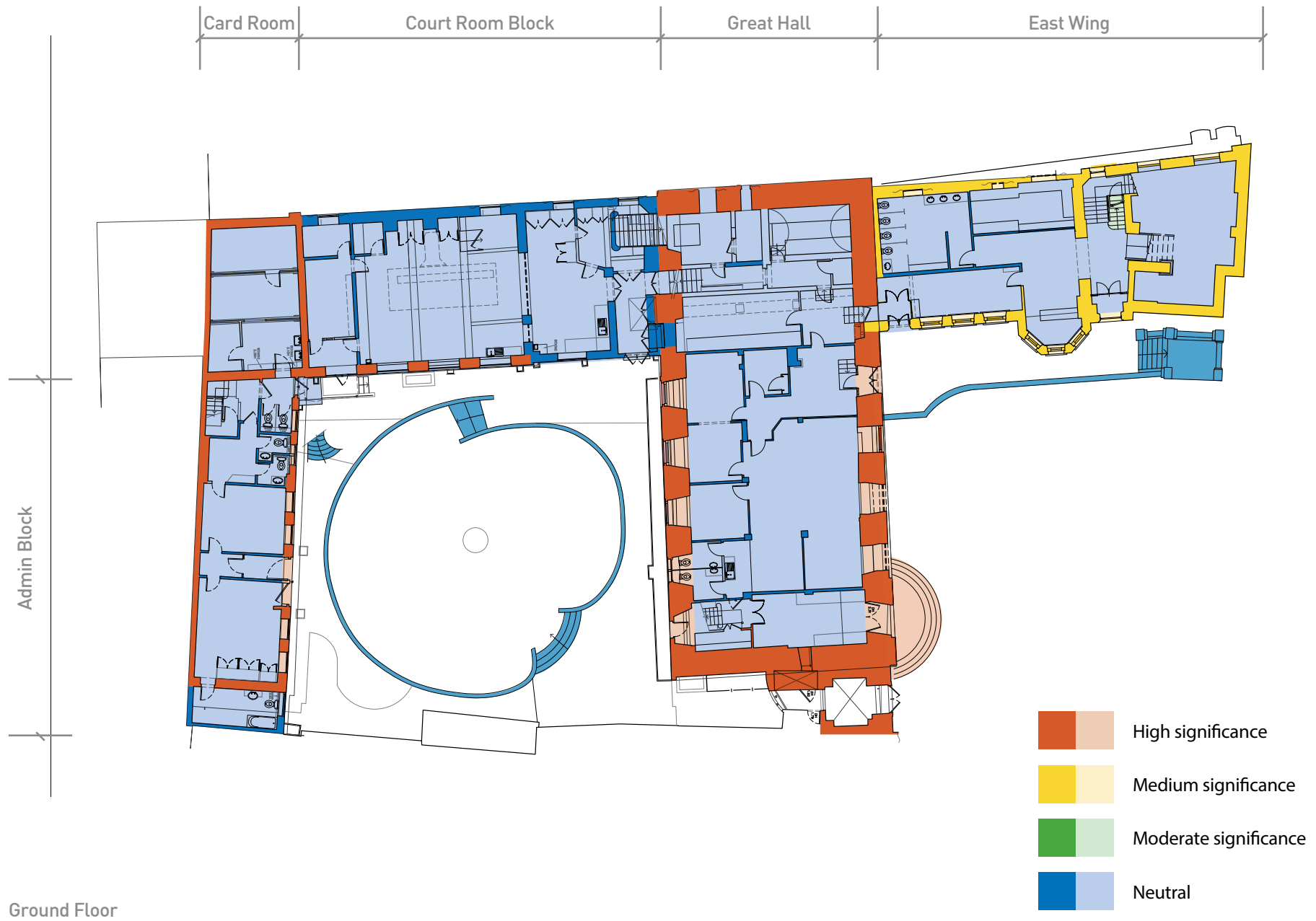
The Admin Block: a unique seventeenth-century warehouse

3.4 Significance Drawings

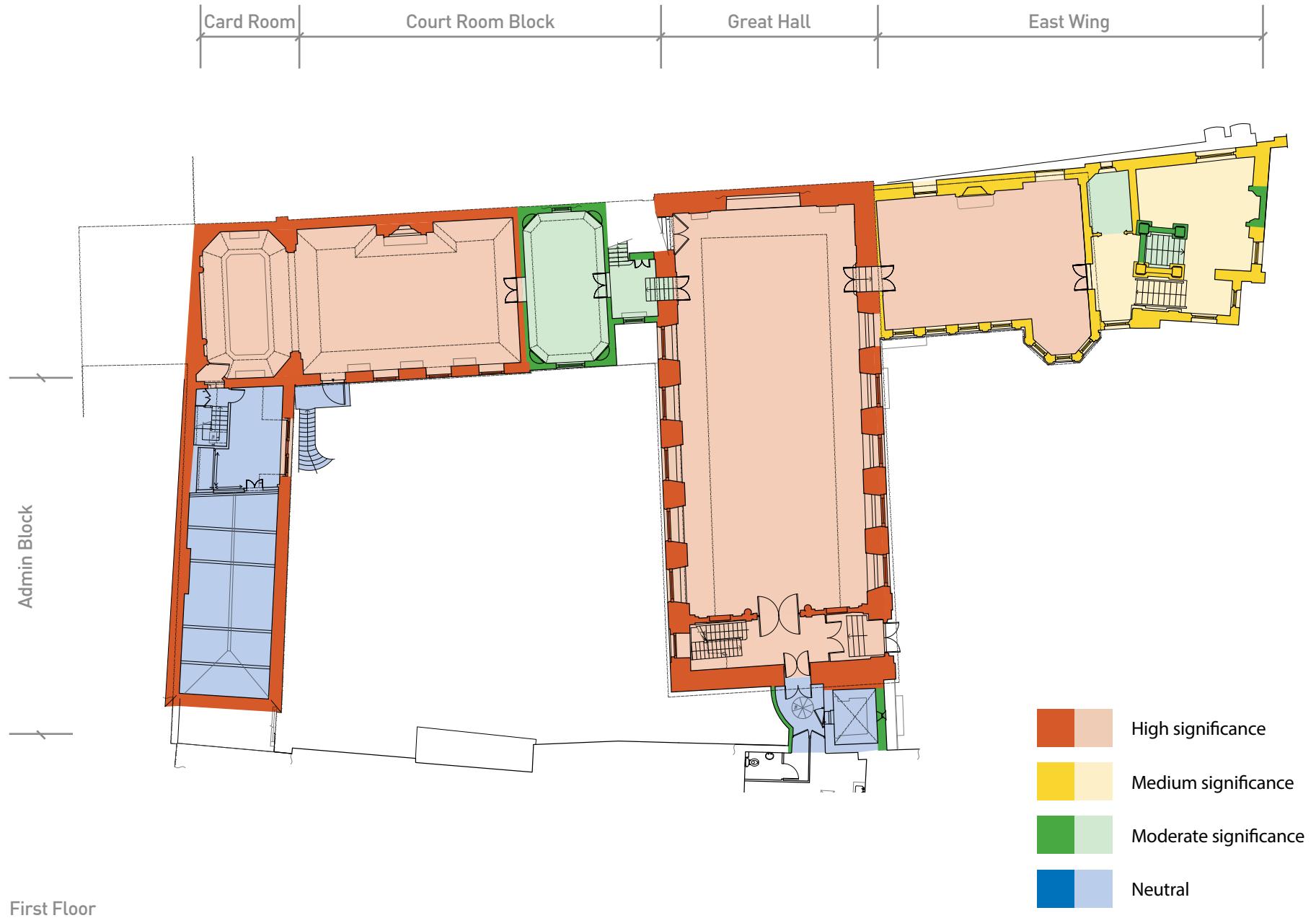
The assessment of significance outlined above is represented graphically in these colour-coded drawings. They employ a sliding scale from high, to medium, to moderate, to neutral significance. Each colour has two tones, the darker tone referring to the interest of the fabric and plan-form, and the lighter tone referring to the interest of the space and its decorative fittings. These drawings are intended as a summary and should not be regarded as comprehensive or definitive. They should be read in conjunction with the Age of Fabric drawings.

3.0 Assessment of Significance





3.0 Assessment of Significance





Second Floor

3.0 Assessment of Significance



3.5 The Historical Importance of the Stationers' Company Archive

by Robin Myers, Honorary Archivist Emeritus

The archive of the Stationers' Company is the unique record of the development of the company and places its historical and cultural role at the heart of the City of London in context. The archive is complemented by the records of the Copyright Office of the Company 1842-1924 held in The National Archives. From 1554 to the present day, this archive documents the cultural and historical heritage of the City of London and from the first days of publishing to the modern day content industries, from Shakespeare's first folio registration to the pioneering expertise of digital archiving.

The records of the Stationers' Company, from 1554 to the present day, have been recognised to be a major resource, the most important single resource for research into the history of the British, above all the London, book trade, the origins of copyright and the development of commercial printing, newspapers and publishing. Registers of all books published in Britain from 1540 to 1911 are held jointly with the National Archives at Kew, with the earlier volumes (up until 1842) held at Stationers' Hall. Other records comprise registers of apprentices, freemen and liverymen; minutes of the Court of Assistants (1604 to the present), records of the Company's one-time publishing company, the 'English Stock' (1611-1961); the Wardens' Accounts and assorted financial records. In addition, there are many boxes of miscellaneous loose documents relating to every aspect of the Company's affairs, of property deeds and the like and miscellaneous documents and correspondence relating to prominent members of the Company.

The significance of these records, which document the emerging commercial publishing industry in London as well as the start of copyright, reinforces the Stationers' Company's unique historical and legislative connections with the broader media industry. At a time when the future of the industry, its regulation and the protection of intellectual property are topics of huge interest, the Company is determined to be more imaginative in providing access (both physical and digital) to our historical records by researchers, historians, students, school children at all levels and the general public so we can inspire future generations in learning from the past. Engaging audiences and embracing digital opportunities to open up these valuable resources will allow others to discover their richness and support discussion and research. The result of centuries of careful management, including saving the early records from the great fire of London, has enabled scholars to access the material over the four hundred centuries.

The earliest recorded use of the archive was in 1610 when Sir Thomas Bodley paid the Company for a copy of the book registers so that he could procure a copy of every book published up to that point in time in order to start his library in Oxford. He also agreed that the Company would send him a copy of every book registered thereafter, thus making the Bodleian Library the first complete library of record. The book registers were frequently consulted by literary scholars from the middle of the seventeenth century onwards. In 1875 Edward Arber transcribed and published a large portion of the Court books and registers from 1640 and, in the early twentieth century, W.W. Greg, Cyprian Blagden and others were given access to the records to publish histories of the Company and the book trade.

As early as the 1950s some microfilming was done and the complete archive was published in microfilm in the 1980, which was sold to over 100 libraries worldwide. In 2014 high-resolution colour digital images of the book registers were produced in association with the National Archives. Most of the major early records are in print, and the last important early document is in process of being edited and published by the Bibliographical Society. The Institute of Historical Research is in the process of adding the Company's membership records to their ROLLCO database. In 2015 Adam Matthew Publications started a project to publish digital images and associated metadata of the significant historical elements of the archive. In the last 10 years the Company has hosted an annual archive evening at which a selection of the records is put on display and experts in the field have lectured on them.

The Stationers' Company believes that its archive represents an integral part of the Company's continuing objective to be the principal independent forum in the media industry actively contributing to the strategic development, success and education of these industries.

4.0 Sources

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An Inventory of the Historical Monuments in London, Volume 4: The City, London, His Majesty's Stationery Office, 1929

Archive of the Worshipful Company of Stationers and Newspaper Makers: architectural drawings and plans, 1950s

Alan Baxter

Prepared by Robert Hradsky

Reviewed by Vicky Simon

Draft issued February 2016

Issued April 2016

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London EC1M 6EL



Comments for Planning Application 20/00686/FULL

Application Summary

Application Number: 20/00686/FULL

Address: Stationers Hall Stationers Hall Court London EC4M 7DD

Proposal: Installation of condensing units within louvred acoustic enclosure on flat roof to south of the Great Hall of the The Stationers Hall. Units to serve the Great Hall, Court Room and Stock Room.

Case Officer: Beverley Bush

Customer Details

Name: Mr Christopher Jones

Address: Flat 10 The Gallery 38 Ludgate Hill London

Comment Details

Commenter Type: Neighbour

Stance: Customer objects to the Planning Application

Comment Reasons:

- Noise
- Residential Amenity

Comment: Please see email sent to PLNComments@cityoflondon.gov.uk for details.

Local Plan has policies on Wellbeing and Environmental and this fails to comply.

The Gallery is also listed and this neither conserve or enhances it.

From: [REDACTED]
To: [PLN - Comments](#)
Subject: Planning Application 20/00686/FULL
Date: 20 December 2020 00:08:40

Flat 14, The Gallery,
38 Ludgate Hill,
London EC4M 7DE

19 December 2020
Ref: Your letter 23 December 2020

Dear Ms Bush,

Installation of condensing units within louvred acoustic enclosure on flat roof to south of the Great Hall of the Stationers Hall. Units to serve the great Hall, Court Room and Stock Room 20/00686/FULL

Objection

Thank you for your letter of 23 November 2020. We wish to object to the above proposed development outlined in your letter of 23 November 2020.

We own and live in one of the flats in The Gallery, 38 Ludgate Hill, which is a listed residential building of 17 flats. Our flat looks at the back onto Stationers' Hall. The bedrooms of many flats in the Gallery, including our own, look out onto this area which is away from the road and traffic noise and is described by the Stationers' Hall website as "tranquil."

The proposed addition of 7 large industrial-level air conditioning units (3 double and 1 single) will create a considerable additional noise in this area, especially as it would seem that the huge space in the Hall and in the other rooms will need prolonged use of the units. This will be audible in our flat and will adversely affect its amenity. Visually it would also appear to be a large, bulky, additional structure, which would detract from the beauty of the square and garden in this historic area.

The Stationers' choice of location for the units lacks any consideration for the neighbouring residential property and its amenity. The Stationers propose to place their units very close to this residential block of 17 flats, rather than using one of their several other buildings where it would have less impact on City residents.

Stationers' Hall frequently and increasingly hires out its space for social events, for example, weddings, parties and BBQs, during both the day and the evening and, according to its own website, is open 7 days a week until 12am (midnight) with a licence extension available. The events are already noisy into the night, both outside and inside the Hall. The noisy clearing up of bottles at all hours is also a disturbance. The proposed new air conditioning units will inevitably add to the disturbance already caused by activity in the Stationers' Hall. (See below for incorrect information about this on the Application.)

Reference is made in the Application to existing air conditioning units. These units are not owned by or under the control of the owners of The Gallery and they already constitute a noise nuisance, especially as they have no acoustic roof cover. You should know that the noise from these units, particularly as they continue to function throughout the night, has been the subject of communication with the managers of No. 32 Ludgate Hill from The Gallery Ludgate Hill Management Company, requesting that they abate the noise, especially at night, with unfortunately little effect so far. There is therefore no merit in the applicants using the existing units as supporting evidence as they are already a contested oral and visual nuisance to the neighbouring residential building.

Problems with the Application

It is clear that the proposed installation of seven air conditioning units near the listed building of The Gallery would cause a number of problems and there are a number of defects in the Application itself which make it extremely difficult to understand the exact location of the proposed units in relation to neighbouring property.

The covering list of documents on the Planning website does not tally with the labels on the documents. The list has 3 documents with identical labels whereas the documents themselves have different names. (AC 101 Proposed AC Plan, AC 102b Proposed AC Section A, and AC 104 Proposed AC Section C). It is unclear what all these labels mean.

On various documents the plans merely refer to “neighbouring building” when there are in fact at least two affected buildings, one with offices (No 32 Ludgate Hill), and one residential (No 38 Ludgate Hill). These buildings are very different in their nature, function, interests and concerns. For example, “AC 103 Proposed AC Section B” states “neighbouring building” on part of the diagram but also shows part of an outline of another building. Does this diagram show 32/34 or 36/38 Ludgate Hill, or both? What is the column showing small windows and “Vents”?

There is no diagram, photo or photo montage which shows exactly how the proposed structure is placed in relation to the two buildings in Ludgate Hill which back onto the Stationers’ Hall property. The plans do not seem to represent these actual buildings and it is therefore impossible to identify exactly how the different flats in The Gallery will be affected, and at what level. Is the new a/c building higher or lower than the “existing a/c units” in the existing “lightwell”? Views of the new units looking towards the rear of the properties in Ludgate Hill should be provided together with “photo montages” or photos to clarify the situation.

The plans show two versions of the proposed roof of the structure housing the new units, one flat and another gabled. Which is it?

The noise modelling for the Application was done on 4 units, whereas there are 7 shown on the diagrams.

In “AC 101 Proposed AC Plan” it is unclear what the different red lines in the “Key Plan” indicate.

There are two errors in the Application regarding hours of use and commercial activity:

- i) The answer given to Question 19 about the relevance of hours of opening is ticked as “No” when in fact the Stationers’ Hall is frequently hired out for noisy events in the evening as well as the daytime, which require booking and opening/closing times.
- ii) The answer given to Question 20 about whether the proposal involves the “carrying out of ... commercial activities...” is also ticked as a “No” when the Stationers’ events are advertised on their website on a commercial basis.

We are surprised that the City has put the plans forward in this incomplete state for examination in the public domain. The seventeen households in The Gallery deserve the consideration of being enabled to see plans which are understandable for the lay public, especially when the Corporation is interested in encouraging residential as well as business use of the City. It is also unreasonable to send plans with only a seven day extension to the usual 21- day deadline in the middle of a pandemic when a number of people have had, for unavoidable reasons, to lock down at different addresses and may not have received the notification.

Yours sincerely,

Mrs Kathryn Colvin CVO
Professor Brian Colvin

Sent from [Mail](#) for Windows 10

Comments for Planning Application 20/00686/FULL

Application Summary

Application Number: 20/00686/FULL

Address: Stationers Hall Stationers Hall Court London EC4M 7DD

Proposal: Installation of condensing units within louvred acoustic enclosure on flat roof to south of the Great Hall of the The Stationers Hall. Units to serve the Great Hall, Court Room and Stock Room.

Case Officer: Beverley Bush

Customer Details

Name: Mr jeffery harvey-wells

Address: flat 3, The Gallery, 38 Ludgate Hill, London EC4M 7DE

Comment Details

Commenter Type: Neighbour

Stance: Customer objects to the Planning Application

Comment Reasons:

- Noise
- Other

Comment: I wish to strongly protest against the proposed planning for the construction of air-conditioning plant behind The Gallery by Stationers Hall.

Locating industrial air conditioning units directly beneath a residential building will have a material impact on the residents in The Gallery, 38 Ludgate Hill where I live.

The residents already suffer noise impact from events at Stationers Hall which run into the the early hours of the morning. Even if an event finishes at 12am the clear up and event wind down makes the noise impact being suffered well into the early hours.

Add to this large industrial air conditioning units running 24 x 7 and this will be an intolerable level of noise pollution to the residents (many of whom have bedrooms overlooking / directly above the proposed site).

Both the proposal and the siting of these units is not acceptable and will reduce the quality of the residential environment for one of the premier residential properties on Ludgate Hill.

Comments for Planning Application 20/00686/FULL

Application Summary

Application Number: 20/00686/FULL

Address: Stationers Hall Stationers Hall Court London EC4M 7DD

Proposal: Installation of condensing units within louvred acoustic enclosure on flat roof to south of the Great Hall of the The Stationers Hall. Units to serve the Great Hall, Court Room and Stock Room.

Case Officer: Beverley Bush

Customer Details

Name: Mr Charles Smart

Address: Flat 16, The Gallery London

Comment Details

Commenter Type: Neighbour

Stance: Customer objects to the Planning Application

Comment Reasons:

- Noise
- Other
- Residential Amenity

Comment: We have detailed our objections in an emailed letter to the Planning Department

Comments for Planning Application 20/00686/FULL

Application Summary

Application Number: 20/00686/FULL

Address: Stationers Hall Stationers Hall Court London EC4M 7DD

Proposal: Installation of condensing units within louvred acoustic enclosure on flat roof to south of the Great Hall of the The Stationers Hall. Units to serve the Great Hall, Court Room and Stock Room.

Case Officer: Beverley Bush

Customer Details

Name: Ms Zoe Vucicevic

Address: Flat 5, The Gallery 38 Ludgate Hill London

Comment Details

Commenter Type: Neighbour

Stance: Customer objects to the Planning Application

Comment Reasons:

- Noise
- Other
- Residential Amenity

Comment: I wish to object to the proposed installation of air conditioning units at the Stationers Hall.

The proposed units are very large in size and will have an overbearing impact.

They are sited in close proximity to the flat roof that belongs to 38 Ludgate Hill, a Grade II listed residential building that is part of St Paul's Cathedral Conservation Area.

It is not clear from the plans that prescribed separation distances have been observed.

The bedrooms of the majority of the flats in the building look out onto the Stationers Hall and some - especially those on the lower floors like mine - will be adversely affected by the proposed AC units.

The noise and vibration from the units will adversely affect residential amenity of the flats.

This is particularly acute, as the air conditioning operates throughout the day during the summer season, making it impossible to open windows in the Gallery bedrooms.

The existing commercial air conditioning units mentioned in the application (and implicitly used as

justification for siting Stationers Hall units in the same location) are subject of an ongoing noise complaint.

The residents of The Gallery are already subjected to noise and nuisance from Stationers Hall events, especially concerts etc that often go on late into the night.

The units of this size could also have detrimental environmental impact and could be a source of greenhouse gas emissions.

Finally, the large and bulky appearance of the units could impair visual amenity of the Stationers Hall itself.

Given the size of the Stationers Hall demise, it is surprising that they have not been encouraged to find a more suitable location for the units - a location that would balance the considerations mentioned above.

As it stands, my neighbour and I object in the strongest terms to the proposed siting of the AC units and the multiple detrimental effects on the residential amenity of our flats and on the protected character of St Paul's Conservation Area.

Stationers Hall

Planning Application: 20/00686/FULL

Application Validated: 07.09.20

Report prepared: 06.01.21, Report Revised 25.01.21

Application for planning permission to install air cooling condensers – response to objections.

The Worshipful Company of Stationers and Newspaper Makers has submitted a planning application to the Corporation of the City of London for the installation of air-cooling condensers on top of a storeroom on the company's premises.

The planning department has received 5 objections to this proposal which means that the application must go to the Planning Committee for determination.

This paper seeks to address objections of the occupants of The Gallery, Ludgate Hill, a residential building located directly to the south of Stationers' Hall. The objections have been made on similar grounds, mainly around the perceived impact on residential amenity. For context, an application for the provision of enclosed air conditioning units relating to the top floor of the Gallery was recently approved at appeal.

Summary:

- There is an inevitable compelling need to improve the environmental conditions of Stationers' Hall for the benefit of those who work there and people attending events there. But there is also a requirement to try to regulate temperature fluctuations which in the long term would otherwise be detrimental to the fabric of the building and the historic contents. For these reasons, the Stationers' Company is investing in a modern air-cooling system and wishes to install the necessary air condensers in the location which is the subject of our application. The relevant consents have already been granted by Historic England (namely scheduled monument consent) for the proposal.
- The proposal has been put together thoughtfully and considerately, bearing in mind the conservation guidance provided by Historic England as well as advice from various consultants on carbon emissions, ambient noise and temperature levels.
- Possible alternative locations have been carefully considered and discounted for good reasons. The location proposed is the only flat roof available for the installation on the Stationers' Company premises. The location of the air condensers elsewhere on the estate would detract from the general presentation of this Scheduled Ancient Monument, Grade I listed building and the courtyard garden.
- Efforts have been made to complement the A/C requirement and further reduce carbon footprint through the use of passive measures which are detailed in our paper and through sensitive design and use of screening and enclosure.

- The equipment reduces the Stationers Hall carbon footprint by 80% and does not emit gases or particulates.
- Ambient noise levels have been assessed by a specialist acoustic consultant. Our plant has been designed to maintain noise levels below background sound levels, by use of a well-designed acoustic enclosure, by running equipment at reduced, quieter levels and by siting intakes/outlets away from residences. As such, there would be no impact on neighbouring residents, even at night time.
- The enclosure is sited to minimise loss of visual amenity from the residences. The roof on which the equipment will be situated will be lowered for this reason, to reduce the amount the enclosure protrudes above the existing parapet wall.
- The enclosure is designed and sited so as not to be detrimental to the character of the Listed Buildings, Scheduled Ancient Monument, and Conservation Area. The location has been approved by Historic England and Scheduled Monument Consent granted.

1. BACKGROUND

Stationers Hall is the historic headquarters of the Worshipful Company of Stationers and Newspaper Makers and is the historic centre of the printing and papers industries of England and Wales. It is a Grade I Listed Building and a Scheduled Monument.

The Company's livery hall has been on its present site for over four hundred years. The first hall, burnt down in the Great Fire of 1666, was replaced with the present hall, the construction of which was completed in 1673. The Hall was bombed during the Blitz, and the Court Room re-built in 1957.

The company archive, stored onsite, is an international source of prime importance for the study of the English and Welsh book trade and English literary history. The company's written records formed the origin of the concept of copyright. The warehouse in the garden courtyard, which now houses the archive in a purpose-built suite of rooms, is the only remaining seventeenth century warehouse in the City of London. The archive suite, which was fully funded privately by members of the company, hosts visits by scholars from as far afield as Japan, Brazil, and Finland. The creation of this archive centre was the first phase in a general improvement of facilities at the hall of which our current application is an integral part.

2. GUARANTEEING THE FUTURE OF STATIONERS' HALL

The preservation and long - term future of this Grade I listed building is based on the membership's willingness to support it financially through subscriptions, membership events, investments, donations and loans. Funds are also raised by letting the hall for external events including weddings, trade-related events and concerts. The company receives no grants from government or from charitable foundations. It is therefore vital to ensure that the hall remains an attractive venue for events to preserve this income stream without which the financial security of the hall is threatened.

As custodians of this important site and its contents, the membership takes seriously the preservation of this site and the various income streams which guarantee that preservation.

The proposed works are also critical from a heritage perspective, with the regulation of temperature an essential route to protect the historic fabric of this Grade I listed building. There are therefore clear heritage benefits associated with the proposals, to ensure the long term preservation and viable use of this heritage asset, which is of national importance as reflected in its listing.

Following extensive studies, it has become clear that steps must be taken to modernise and upgrade the facilities of the hall to guarantee its attractiveness as a venue for events. These include the installation of a lift to improve access for wheelchair users and others who would otherwise struggle with the 17 different levels within the building. An internal redesign of the building will enable access to different rooms without having to pass through another room. This means that various events can take place during the day in different parts of the building, providing a more flexible layout including breakout rooms.

Improved regulation of temperature in the rooms is now an urgent requirement as, at the peak of summer, the conditions in the Hall can be very uncomfortable. There is currently no air conditioning or air-cooling system in the building. The presence of an air-cooling system or otherwise will make the difference between the Hall being commercially viable in the long term – or otherwise. This is particularly so at a time when public expectations for levels of comfort and wellbeing at meeting spaces will be particularly high following the Corona Virus outbreak.

Other livery companies have been upgrading their facilities to support their commercial viability. Our ability to compete will be severely limited if we are unable to install air cooling, with long term consequences for the viability of this building in Livery Company ownership. This renewal project – the first comprehensive project to improve the facilities of the Hall since its opening in 1673 – is being fully funded by the Company through the liquidation of part of its investment portfolio, donations by members of the company and loans from the membership. In taking on the financial burden of maintaining and improving this Grade I facility, the membership of the Company spares the public purse and aims to guarantee the long-term future and accessibility of this historic cultural, trade and leisure facility for a wide community in London and beyond.

This paper aims to address the individual points made by those objecting to our application.

3. LOCAL PLAN CONSIDERATIONS

Objections to the application have been made on the grounds that it is not consistent with the City of London local plan 2036. We understand that due to changes to the planning use classes introduced by the government, public consultation on Local Plan 2036 will now not start until January 2021 and that the Secretary of State is not likely to finalise adoption until early January 2022. We have therefore concentrated immediately below on putting our application in the context of the Local Plan 2015 which constitutes the adopted development plan for the City of London and against which this application will be considered. In view of the stage of development of Local Plan 2036, we believe it holds no weight in decision making. Nevertheless, we have also addressed the specific objections made against draft Local Plan 2036 in the Appendix.

LOCAL PLAN 2015

HOUSING

3.21.10 The City is a predominantly commercial area with a high density of development and intense activity throughout the day and night. Large areas of the City are unsuitable for housing because they would have poor residential amenity. The presence of housing can also inhibit the development of neighbouring sites and the operation of commercial activities due to the need to protect residents' amenities. Housing is therefore not considered appropriate City-wide. Where residential development is exceptionally permitted outside identified residential areas, this development will not be considered to have formed a new residential area.

3.21.14 Isolated units can suffer poor amenity and can be adversely affected by the operation of the business City. Housing units outside identified residential areas are more likely to suffer noise nuisance and other disturbance due to other non-residential uses being permitted in close proximity, including clubs and pubs. The loss of existing housing may be acceptable, provided it is replaced with an equivalent or greater number of units.

Response:

Regrettably, it is clear that living accommodation at the Gallery on Ludgate Hill is in one of the busiest parts of the City and it is likely that there will always be some loss of amenity through activity in the area. We note it is not included within the City's recognised residential areas.

Policy DM 21.3 Residential environment

- 1. The amenity of existing residents within identified residential areas will be protected by:***
 - resisting other uses which would cause undue noise disturbance, fumes and smells and vehicle or pedestrian movements likely to cause disturbance;***
 - requiring new development near existing dwellings to demonstrate adequate mitigation measures to address detrimental impact.***

Response:

The residential block is not within one of the identified residential areas as identified by the City of London.

- 2. Noise-generating uses should be sited away from residential uses, where possible. Where residential and other uses are located within the same development or area, adequate noise mitigation measures must be provided and, where required, planning conditions will be imposed to protect residential amenity.***

Response:

Noise mitigation measures have been built into the design of our unit housing and alternative locations for the unit were explored in detail, but dismissed for a number of reasons.

- 3. All development proposals should be designed to avoid overlooking and seek to protect the privacy, day lighting and sun lighting levels to adjacent residential accommodation.***

Response:

The housing does not overlook the residential apartments and would not impact on residents in this manner.

- 4. All new residential development proposals must demonstrate how potential adverse noise impacts on and between dwellings will be mitigated by housing layout, design and materials.**

Response:

This is not a new residential development, but rather an enhancement to a facility which has been on this site for over 400 years.

- 5. The cumulative impact of individual developments on the amenity of existing residents will be considered.**

Response:

See 4, above.

3.21.15 The City is predominately a centre of business, with activity taking place 24 hours a day, 7 days a week. This sometimes results in noise and disturbance to residents. While the City Corporation will endeavour to minimise noise and other disturbance to residents it is inevitable that living in such a densely built-up area will result in some disturbance from a variety of sources. The potential for such disturbance should be considered by developers when proposing new residential development. Where required, planning conditions will be imposed which limit the hours of operation and servicing. Policy DM 3.5 addresses the issue of night-time entertainment.

LIVERY HALLS

3.11.2 The City has a range of lending and specialist libraries serving the local community and housing collections of national and international significance. The City also has many places of worship which contribute to the cultural and spiritual life of its communities and, along with the livery halls, are used for concerts and exhibitions. Encouraging arts and culture in the City benefits workers, residents and attracts visitors, contributing to London's role as an international tourist and business destination. This assists job creation within the City and in neighbouring boroughs. The City Corporation is the third biggest sponsor of arts in the UK and provides an extensive programme of arts and cultural events.

Response:

Stationers Hall accommodates a variety of cultural and educational activities including:

- Concerts
- Archives exhibitions and lectures
- Educational contribution
- Book talks
- Lectures on media and press matters
- Exhibitions related to the industries of the Stationers' Companies

- Fashion shows

It is also used as a base by companies filming in the area of St Paul's. The Hall and its garden are used for the City's Open Days.

Core Strategic Policy CS11: Visitors, Arts and Culture To maintain and enhance the City's contribution to London's world-class cultural status and to enable the City's communities to access a range of arts, heritage and cultural experiences, in accordance with the City Corporation's Visitor Strategy, by:

- 1. Providing, supporting and further developing a wide range of cultural facilities, including the cultural quarter focussed on the Barbican complex, the Guildhall School of Music & Drama, the Guildhall Art Gallery and City libraries and encouraging and promoting other facilities including the Museum of London. Encouraging the use of places of worship, livery halls and other venues, including the Bridewell Theatre, for cultural events alongside their primary uses.***

Response:

The purpose of our installation of air cooling is to make the Hall more attractive for cultural events in the summer.

- 2. Maintaining the City's existing collection of public art and culturally significant objects, pursuing opportunities to commission new, high quality pieces in appropriate locations.***
- 3. Protecting existing cultural facilities where they are needed, ensuring there is no net loss of cultural facilities in the City.***

Response:

The modernisation of the Hall's temperature regulation is an integral part of the plan to ensure its long-term survival.

- 4. Providing visitor information, increasing awareness of the City's cultural and heritage assets and encouraging the City's communities and visitors to make full use of its cultural and heritage facilities.***
- 5. Allowing hotel development where it supports the primary business or cultural role of the City and refusing new hotels where they would compromise the City's business function or the potential for future business growth. Hotels should not be located where they would create amenity problems for existing residential areas.***

3.12.1 The City's unique townscape of historic buildings, streets and open spaces juxtaposed with contemporary modern buildings creates a varied, attractive and lively environment which attracts companies and visitors who support the services which contribute to its cultural vibrancy. The City contains a large number of heritage assets which include over 600 listed buildings, 26 conservation areas, 48 scheduled ancient monuments and 4 historic parks and gardens. There are many protected trees in conservation areas and with Tree Preservation Orders. Historic buildings characteristic of the City include notable buildings such as Mansion House, Guildhall and St Paul's Cathedral, livery company halls and a large number of places of worship. In addition, the Tower of London, which lies just outside the City boundary, is inscribed by UNESCO as a World Heritage Site of outstanding universal value and its protection includes a defined local setting which is partly within the City. The Mayor's Supplementary Planning Guidance 'World Heritage Sites – Guidance on Settings' provides

guidance on how the setting of the World Heritage Site can be positively managed, protecting heritage while encouraging change, in accordance with the NPPF.

Response:

Stationers' Hall is one of the City's 600 Listed buildings and one of its 48 Scheduled Ancient Monuments.

As a grade I listed building the hall is of exceptional national interest and significance, holding the highest level of grading. Only 2.5% of listed buildings are listed as Grade I.

Core Strategic Policy CS12: Historic Environment To conserve or enhance the significance of the City's heritage assets and their settings, and provide an attractive environment for the City's communities and visitors, by:

- 1. Safeguarding the City's listed buildings and their settings, while allowing appropriate adaptation and new uses.***
- 2. Preserving and enhancing the distinctive character and appearance of the City's conservation areas, while allowing sympathetic development within them.***

Response:

Our modernisation has been planned in close consultation with Historic England.

The proposed works will have a key role in preserving the fabric of the listed building, which is of exceptional national and public significance and interest. The works will deliver heritage benefits.

- 3. Protecting and promoting the evaluation and assessment of the City's ancient monuments and archaeological remains and their settings, including the interpretation and publication of results of archaeological investigations.***
- 4. Safeguarding the character and setting of the City's gardens of special historic interest.***

Response:

In our estimation, locating the air condenser unit housing anywhere else within the garden courtyard would detract not only from the overall appearance of the building, but would also be detrimental to the character of the garden courtyard which is of special historic interest. It should be noted that the courtyard is the home to the Tokefield Centre, the company's archive facility, which is housed in the only remaining seventeenth century warehouse in the City.

- 5. Preserving and, where appropriate, seeking to enhance the Outstanding Universal Value, architectural and historic significance, authenticity.***

DEVELOPMENT MANAGEMENT POLICIES Policy DM 12.1 Managing change affecting all heritage assets and spaces

- 1. To sustain and enhance heritage assets, their settings and significance.***
- 2. Development proposals, including proposals for telecommunications infrastructure, that have an effect upon heritage assets, including their settings, should be accompanied by***

supporting information to assess and evaluate the significance of heritage assets and the degree of impact caused by the development.

- 3. The loss of routes and spaces that contribute to the character and historic interest of the City will be resisted.***
- 4. Development will be required to respect the significance, character, scale and amenities of surrounding heritage assets and spaces and their settings.***
- 5. Proposals for sustainable development, including the incorporation of climate change adaptation measures, must be sensitive to heritage assets.***

Response:

This document sets out the significant improvement to carbon emissions presented by this proposal. The proposed location has been agreed by Historic England.

3.12.5 Development proposals will be required to include supporting information describing the significance of any heritage assets whose fabric or setting would be affected and the contribution made by their setting to their significance and the potential impact of proposals on that significance.

Response:

We believe this paper presents the information required.

4. PROPOSED LOCATION

The objections assume we have not investigated other locations on the Stationers' Hall Site. This is not in fact the case. Alternative locations have been considered. It is important to note however that the proposed area is the only one offering a flat roof to house the units and that the roof of the storeroom has been lowered to reduce the visual impact (see diagrams at attachment). A meeting was held on 29.08.19 with representatives from Historic England and City of London to discuss possible locations. The proposed location has received Scheduled Monument Consent from Historic England.

Alternative locations previously explored:

- A. Within the storeroom on top of which we now proposed to locate the units. Apart from the fact that this is the principal storage place on the premises for chairs and tables, it would not provide the all-important access to air which is the principle on which the Air heat pumps work.
- B. On top of the Court Room of the west wing. The load bearing capacity of the roof in this location would not sustain the weight of these units and would probably require additional reinforcement of the roof. It would be very intrusive on the skyline and, in order to reduce the intrusion, we would have to remodel the roof of this room altogether. Initial thoughts on remodelling left us to conclude that insufficient air would circulate to the condenser units and this location would not be given consent by Historic England, as it alters the existing skyline.
- C. Terrace area above the link block. It was concluded that location of the units in this area would negatively impact the setting of the Scheduled Ancient Monument. Once the location was agreed the team worked with City of London to reach a proposal which minimised the impact on the Gallery and other properties.

5. NOISE LEVELS

Our acoustics consultant (Ion Acoustics) has provided the following note:

In respect of noise emissions, we have measured the background noise levels and prepared a plant noise emissions assessment in line with the Local Authority standard requirements and in line with the appropriate British Standard (BS 4142:2014). We measured the background noise levels, which were controlled primarily by plant noise from the nearby larger office building (the rear of the offices on Old Bailey); the noise levels were not from the plant on commercial units at the back of the Ludgate Hill building. So we are not relying on those units to describe the underlying background noise level. Those units may well raise the noise levels sometimes, but they are not currently used in our assessment as the baseline background noise level.

The plant noise emissions have been calculated and are being controlled to meet the standard City of London planning noise requirements, this has meant that the scheme is being designed with significant noise control measures incorporated in the scheme to meet the noise limits. The principle of the noise control is that the plant has been selected to meet its indoor cooling requirements when set to run at a reduced duty; lower than their full capacity, which reduces the source sound power level of the plant. This plant is then housed in a bespoke acoustic enclosure which includes attenuated ventilation inlets and outlets and absorptive lining to the interior. The arrangement of the plant has been set out to avoid having ventilation openings facing directly towards the housing. The plant and housing enclosure together are designed to reduce the noise levels outside the residential windows to meet the noise limit for compliance with the City of London requirements; specifically 10dB below the baseline background noise level LA90.

The Stationers' Company does not intend to run the air-cooling 24 hours a day, but will use the system to pre-cool areas before events and during events.

6. ENVIRONMENTAL CONSIDERATIONS

A. In the objections, it has been suggested that the system we propose to instal represents no improvement to environmental conditions. In fact, as Attachment 3 shows, the new system delivers an improvement of more than 80% in carbon emissions.

It has also been suggested that the system we are proposing to install is an outmoded one. In fact, Air Source Heat Pumps – the system we are planning to use to replace the gas boiler for heating and cooling purposes – are recognised as an energy efficient method of temperature regulation. See: [Guide to air source heat pumps - Energy Saving Trust](#)

B. Passive Measures

It has also been suggested that we may not have considered passive measures of temperature regulation. In fact, the Stationers Company has commissioned passive measures modelling from Method Consulting (See attachment 4). We have also carried out extensive consultations with Tobit Curteis Associates and Historic England to understand the environmental conditions within the Great Hall and determine which passive measures will supplement the new air-cooling system and will, at the same time, be acceptable in providing the best conditions for preserving the historic fabric, pictures and other contents of the building. The report confirmed that the introduction of the air cooling as well as heating will assist in stabilising the environment within the Hall, which will assist the

conservation of the historic fabric, and that passive measures can be used to assist stabilising the environment.

The conclusions of those consultations have resulted in the following measures being included in our upgrade programme:

- (i) Solar Thermal Film will be applied to the windows of the court room and stock room.
- (ii) Upgrades to the windows in Stock room and Court room to prevent air leakage.
- (iii) No film will be permitted by Historic England to the windows of the Great Hall. Therefore, the alternative option of blinds was discussed. As there are currently black-out blinds on the Hall windows Historic England will accept the installation of a blind which reuses these fixings.
- (iv) Insulation to the ceiling of the Great Hall.

One objection has noted our response to Questions 19/20 in the application.

The relevance of opening hours and commercial matters have been marked as not relevant on the application. The proposal was drafted to demonstrate in the first place the efforts to stabilise the internal environment of the Scheduled Ancient Monument, but it will provide also a more comfortable working environment to the staff at the hall and to those attending events there.

See Tobit Curteis' report 'Stationers' Hall environmental report 2019-11 TCA' for further information on the environmental control measures which explores impact on the sensitive and historic interiors which informed the proposals.

7. SUPPORTING PLANS

In the Attachment, the supporting plans have been updated with additional information, to add clarity on the location of the adjoining properties, with the inclusion of photographs. This has been done as accurately as possible with the information publicly available. The key plan has also been clarified.

Photos of the site previously submitted to City of London are also included.

Other concerns raised about the location of the unit in relation to the flats are shown on the sections provided. Drawing 180 SH - AC102b Proposed AC Section A.RevC- shows the relationship of the proposed location of the units to the neighbouring building.

Additional photos have been supplied.

There is mention of two versions of the roof of the enclosure. The profile of the unit is chamfered on two sides and therefore has a different profile depending on which side it is viewed. The chamfer has been designed with the residents of the Gallery in mind to minimise the any loss of light.

There is mention of 4 condenser units vs 7 condenser units. The confusion has probably come from the Mitsubishi variants which appear like 7 separate units but are actually 4 units. Some of the units are made up of two smaller units.

Attachments:

Attachment 1 – Architect’s plans, labelled clearly to assist reading; photograph; design of unit housing

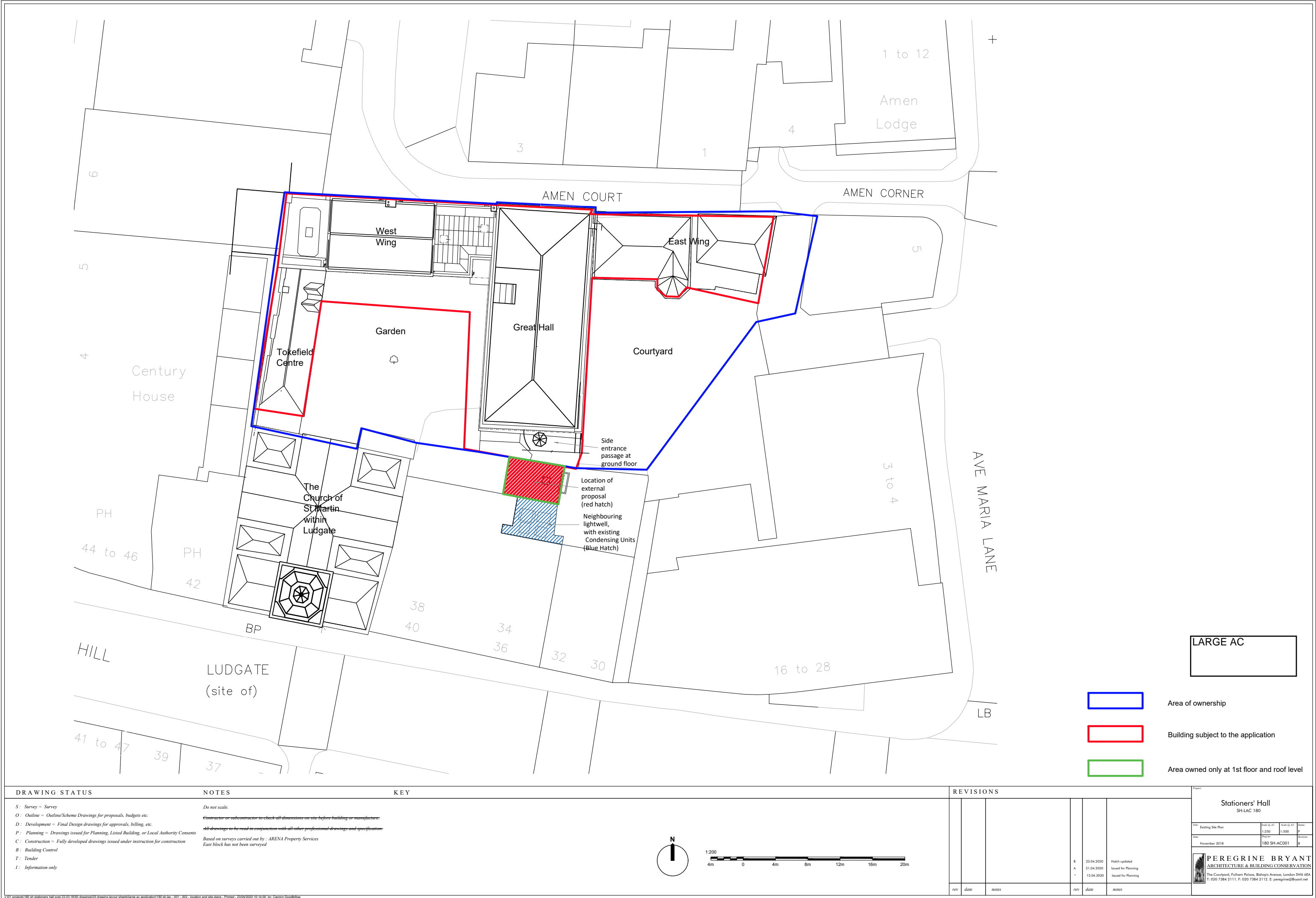
Attachment 2 – Noise modelling report on planned enclosure by LF Acoustics engineering consultants

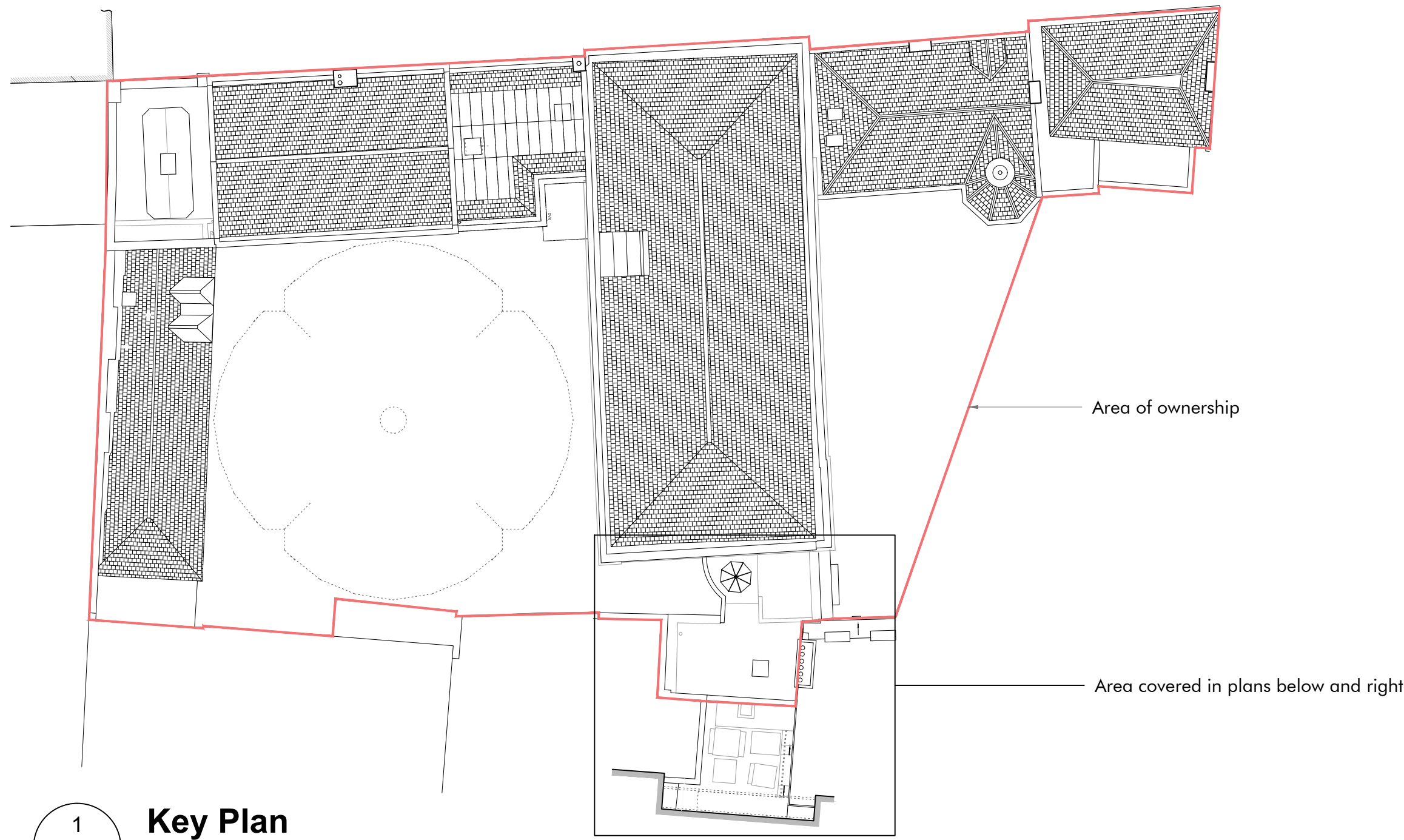
Attachment 3 – Carbon Emissions study

Attachment 4 – Passive Measures Modelling

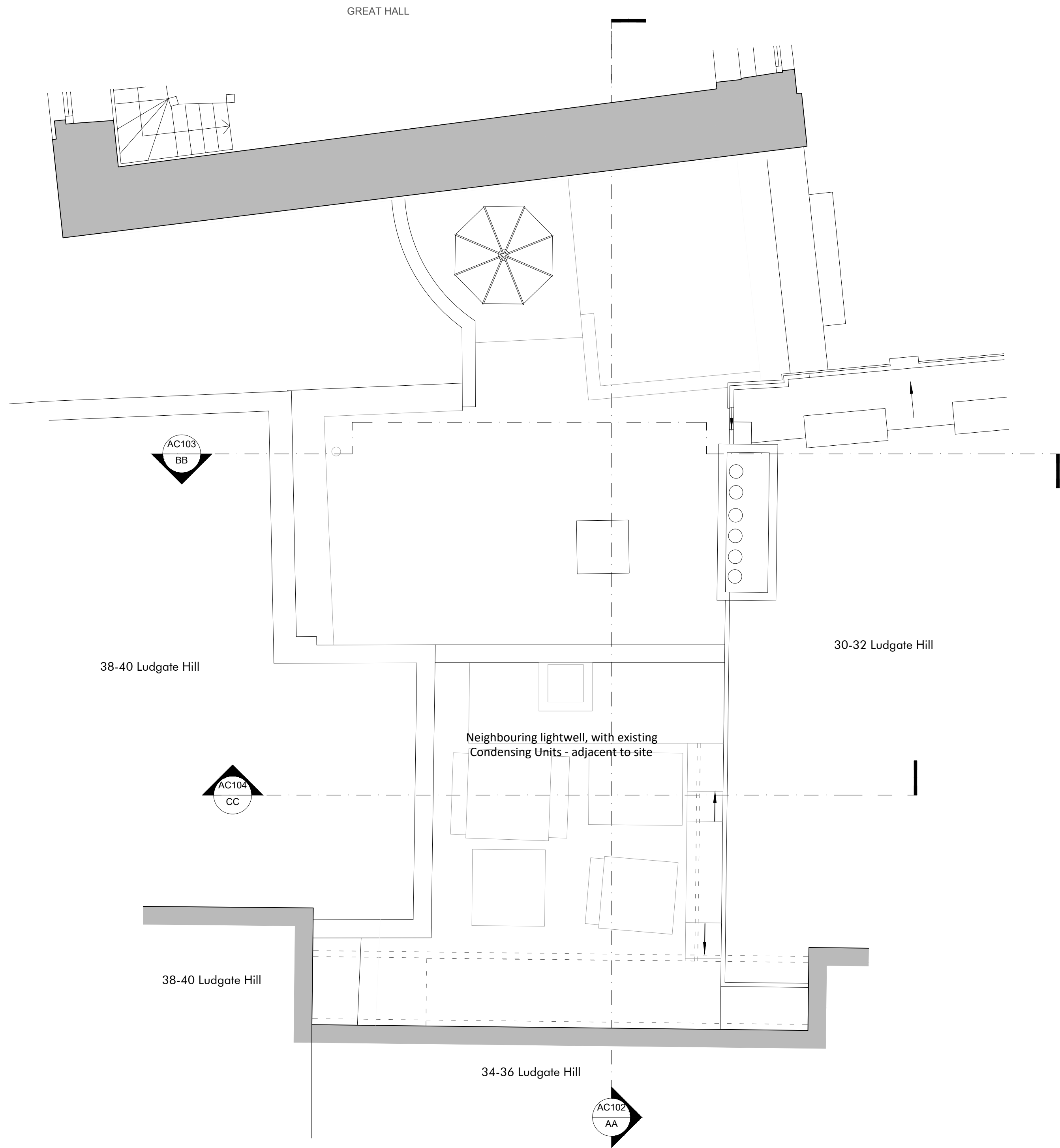
Attachment 5 – Plant Noise Assessment – ION Acoustics – to follow

Attachment 6 – Objections under Local plan 2036 and our response

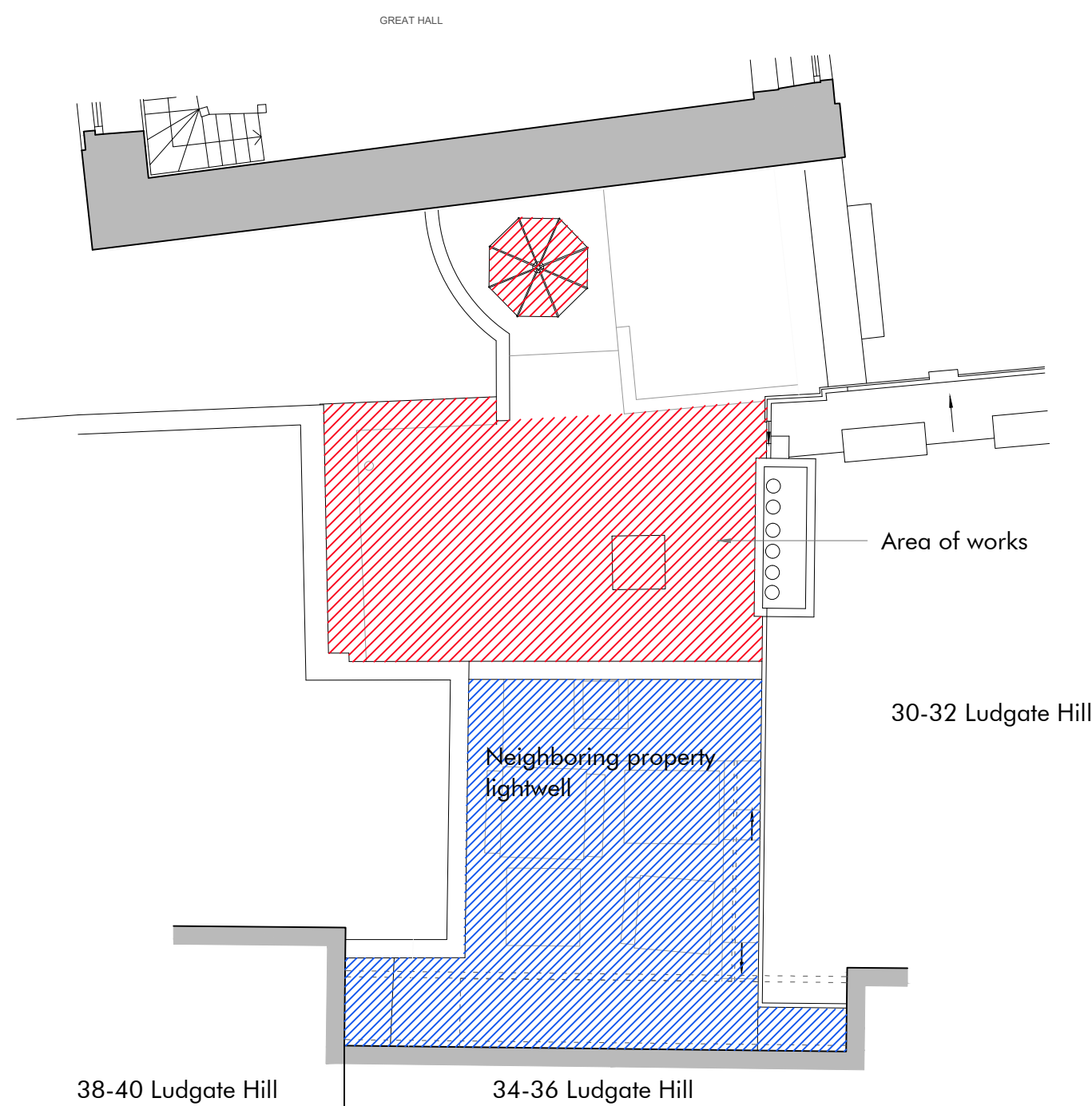




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AC100
Key Plan
1:250 @ A1



3
AC100
Existing Plan
1:50 @ A1



2
AC100
Key Plan 2
1:100 @ A1

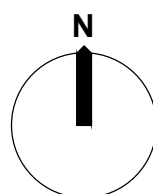
DRAWING STATUS

S: Survey = Survey
O: Outline = Outline/Scheme Drawings for proposals, budgets etc.
D: Development = Final Design drawings for approvals, billing, etc.
P: Planning = Drawings issued for Planning, Listed Building, or Local Authority Consents
C: Construction = Fully developed drawings issued under instruction for construction
B: Building Control
T: Tender
I: Information only
Ct: Contract

NOTES

Do not scale.
Contractor or subcontractor to check all dimensions on site before building or manufacture.
All drawings to be read in conjunction with all other professional drawings and specification.
Based on surveys carried out by: ARENA Property Services
Neighboring property addresses, noted as per information on OS Map

KEY



REVISIONS

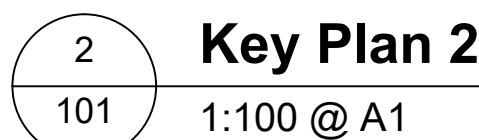
rev	date	notes	rev	date	notes
B	05.01.21	Neighbouring addressed added - Issued for Planning			
A	11.12.20	Issued for Contract			
*	21.04.20	First Issue			

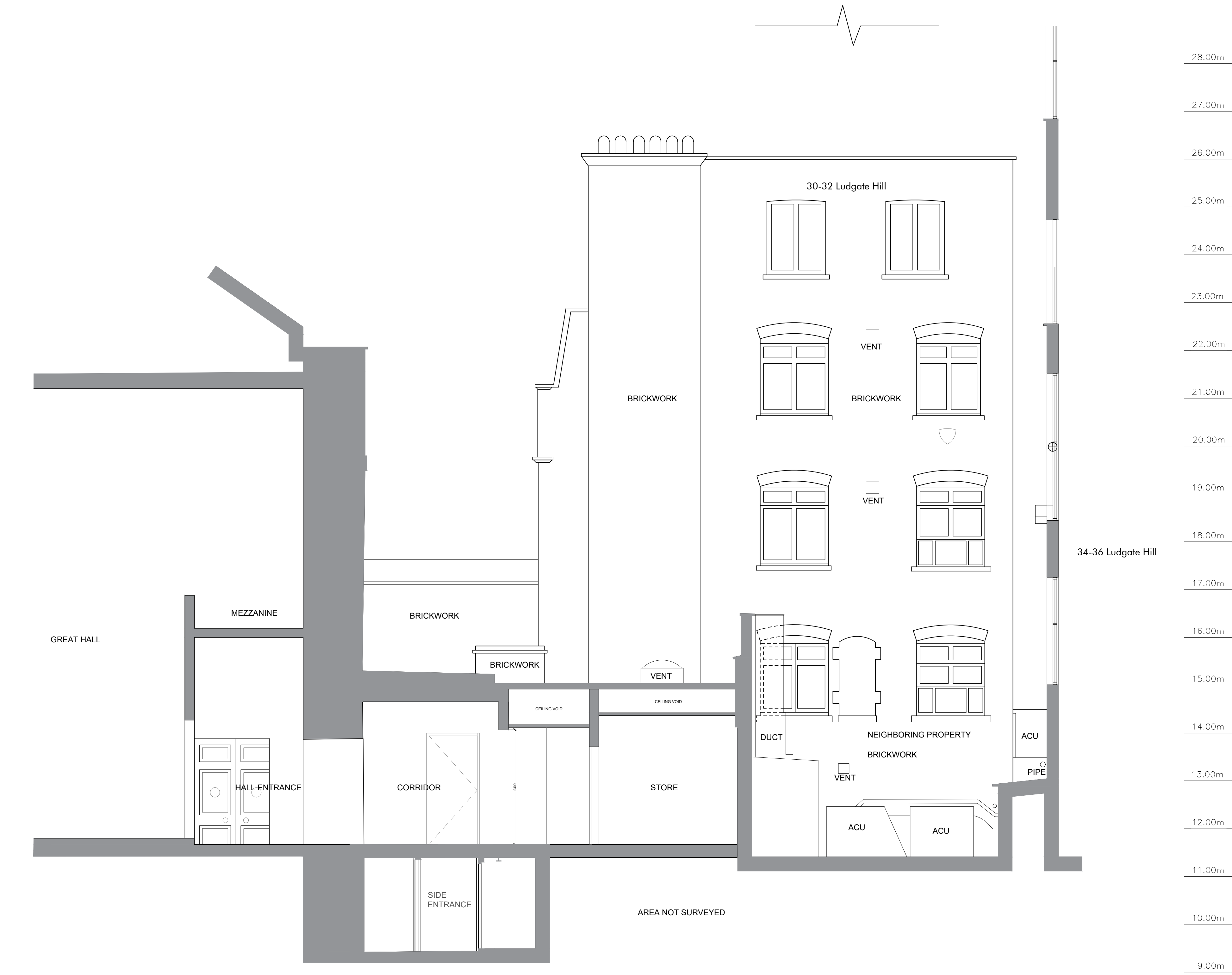
Stationers' Hall
SH 180 - Planning Issue

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Date: July 2019	Drawn by: 180 SH-AC100	Revised by: B	

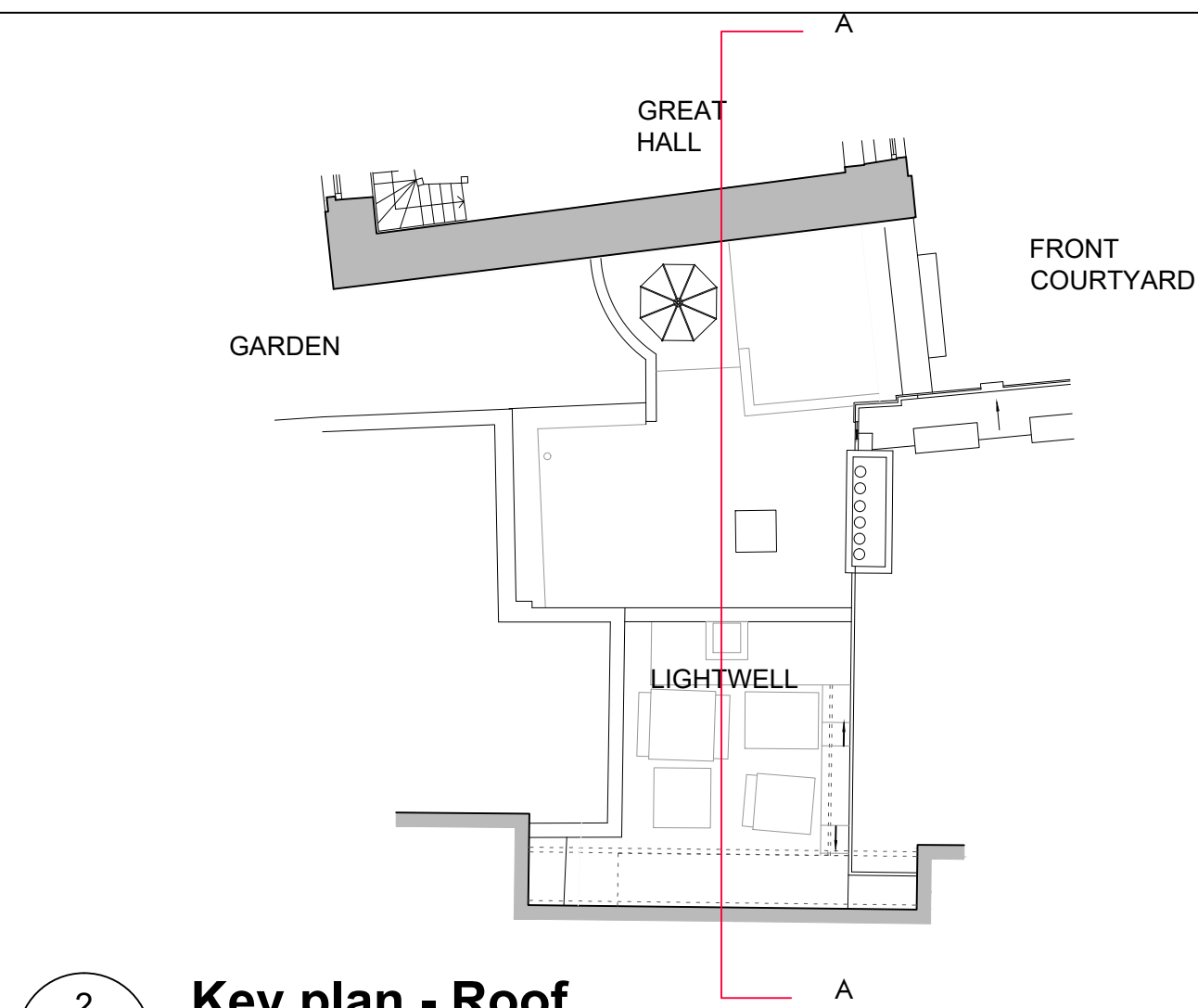
PEREGRINE BRYANT
ARCHITECTURE & BUILDING CONSERVATION

The Courtyard, Fulham Palace, Bishop's Avenue, London SW6 6EA
T: 020 7384 2111, F: 020 7384 2112, E: peregrine@bryant.net

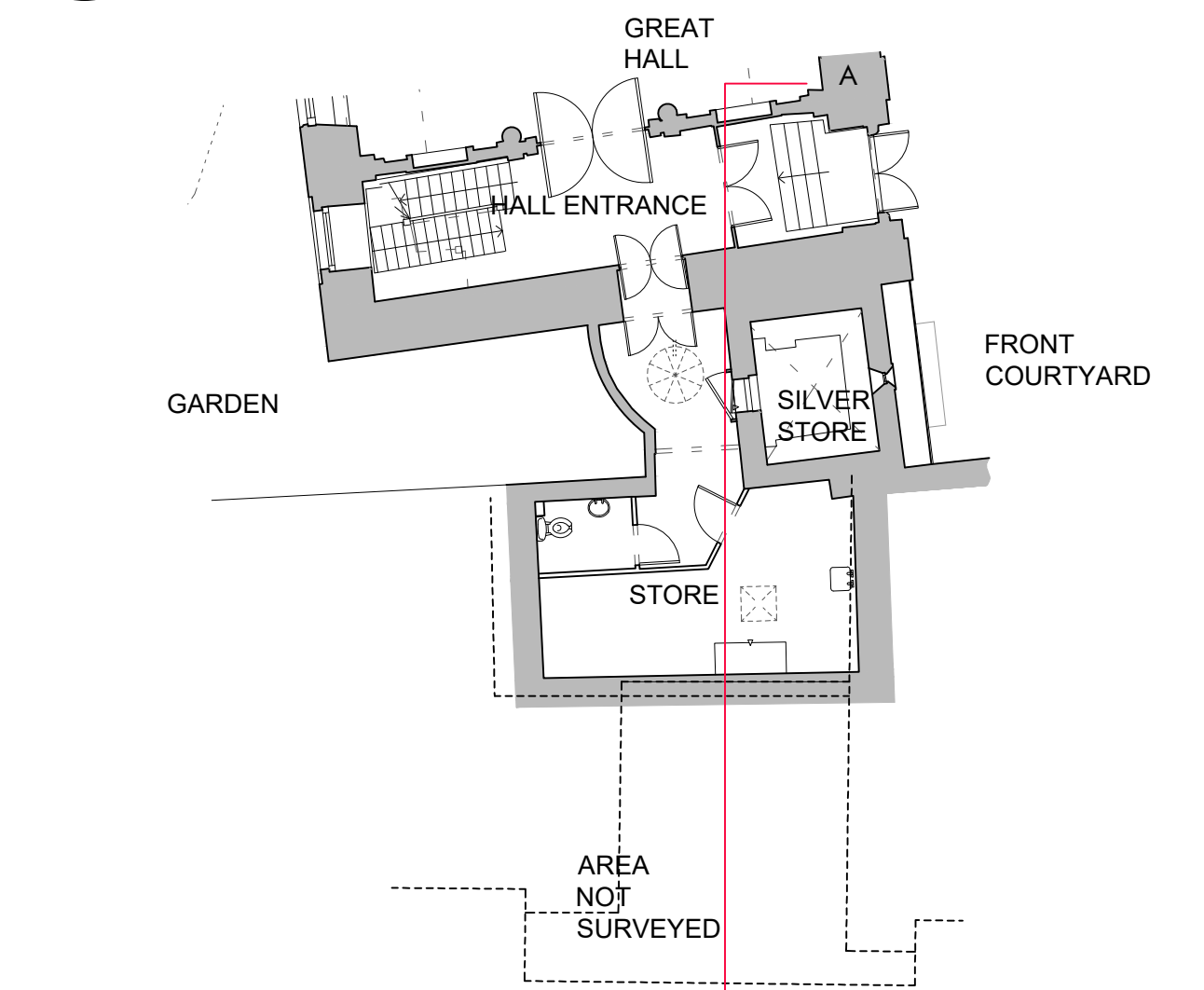




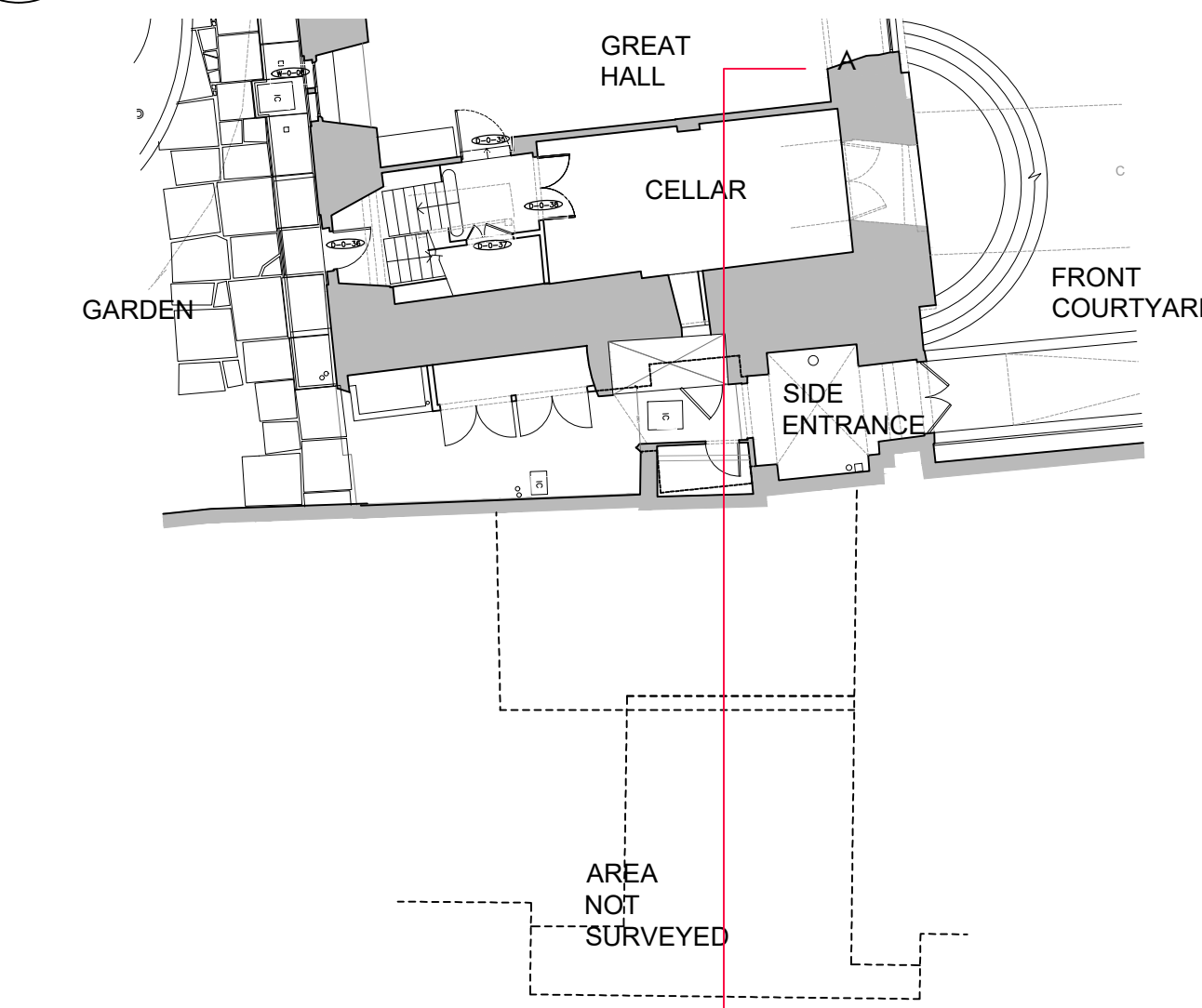
1 Existing Section AA
AC102a 1:50 @ A1








2 Key plan - Roof
AC102a 1:150 @ A1



3 Key plan - First Floor
AC102a 1:150 @ A1



4 Key plan - Ground Level
AC102a 1:150 @ A1

DRAWING STATUS			NOTES		KEY		REVISIONS						Project																																																
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1
AC102b

Proposed Section AA
1:50 @ A1

2
AC102b

Key plan - Roof
1:150 @ A1

3
AC102b

Key plan - First Level
1:150 @ A1

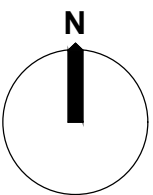
4
AC102b

Key plan - Ground Level
1:150 @ A1

DRAWING STATUS NOTES KEY

S: Survey = Survey
O: Outline = Outline/Scheme Drawings for proposals, budgets etc.
D: Development = Final Design drawings for approvals, billing, etc.
P: Planning = Drawings issued for Planning, Listed Building, or Local Authority Consents
C: Construction = Fully developed drawings issued under instruction for construction
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Do not scale.
Contractor or subcontractor to check all dimensions on site before building or manufacture.
All drawings to be read in conjunction with all other professional drawings and specification.
Based on surveys carried out by: ARENA Property Services
Neighboring property addresses, noted as per information on OS Map



REVISIONS

rev	date	notes	rev	date	notes
D	05.01.20	Neighbouring addresses added, issued for Planning			
C	11.12.20	Issued for Contract			
C	04.09.20	Updated and issued for Planning			
B	04.08.20	Issue for Planning			
B	03.08.20	Issue for Pricing			
B	22.07.20	Updated Enclosure - Issued for comment			
A	21.04.20	Issued for planning			
*	04.03.20	First Issue			

Stationers' Hall
SH 180 - Planning Issue

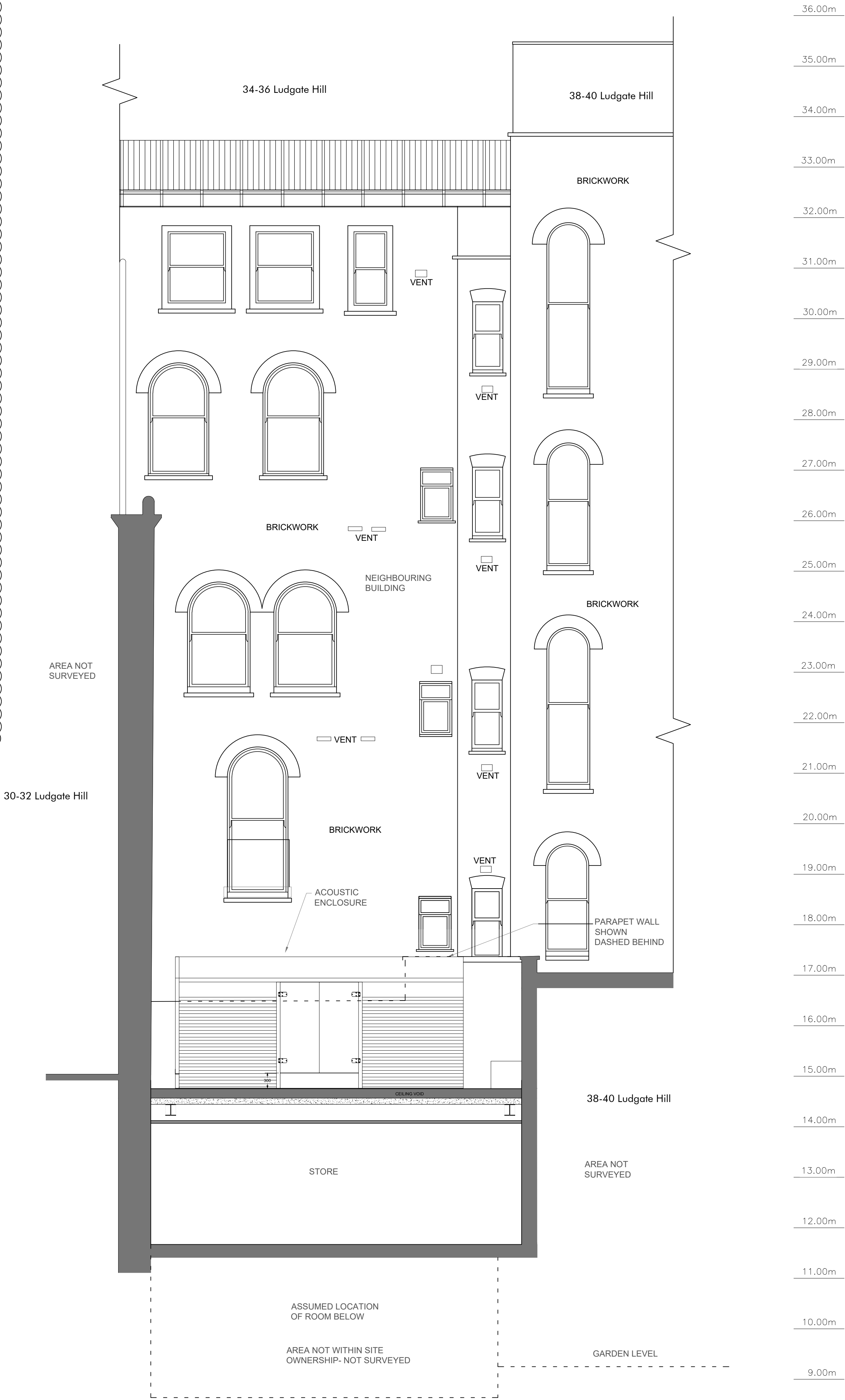
Title: Proposed Section AA	Scale @ A1: 1:50	Scale @ A1: 1:100	Sheet: P
Date: July 2019	Drawn by: 180 SH-AC102b	Revised: D	

PEREGRINE BRYANT
ARCHITECTURE & BUILDING CONSERVATION

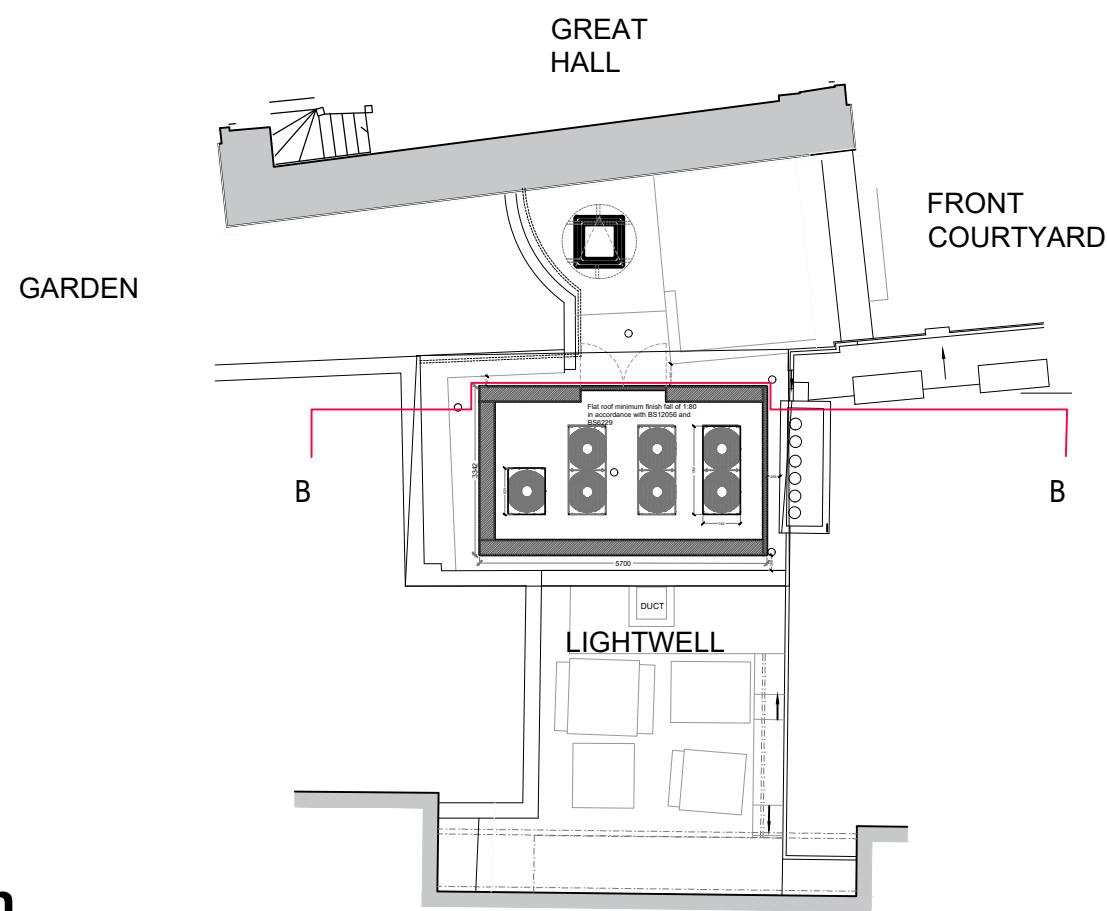
The Courtyard, Fulham Palace, Bishop's Avenue, London SW6 6EA
T: 020 7384 2111, F: 020 7384 2112, E: peregrine@bryant.net




3 North Elevation of Ludgate Hill
AC103 Taken from flat roof looking south

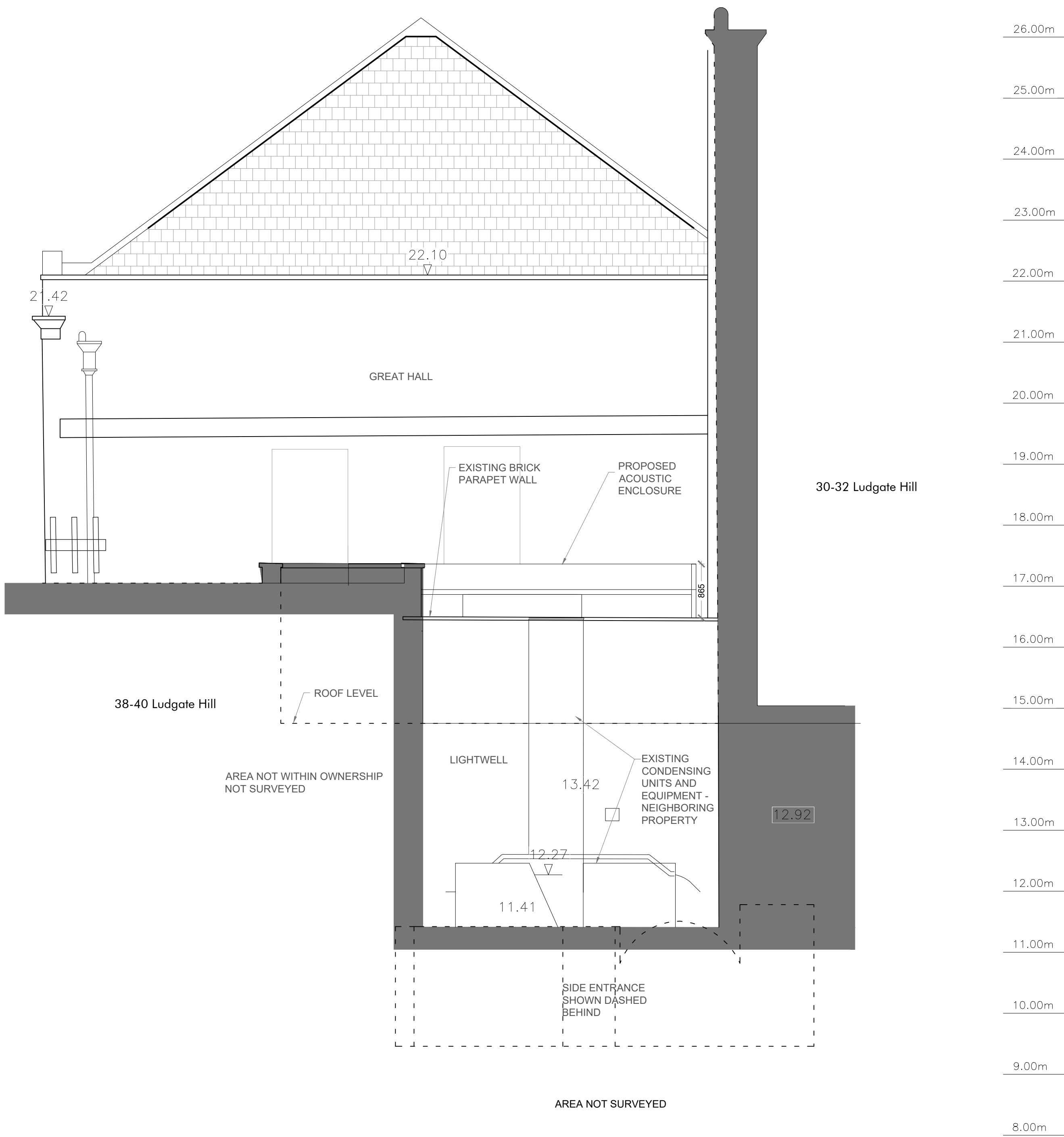


1 Section BB
AC103 1:50 @ A1



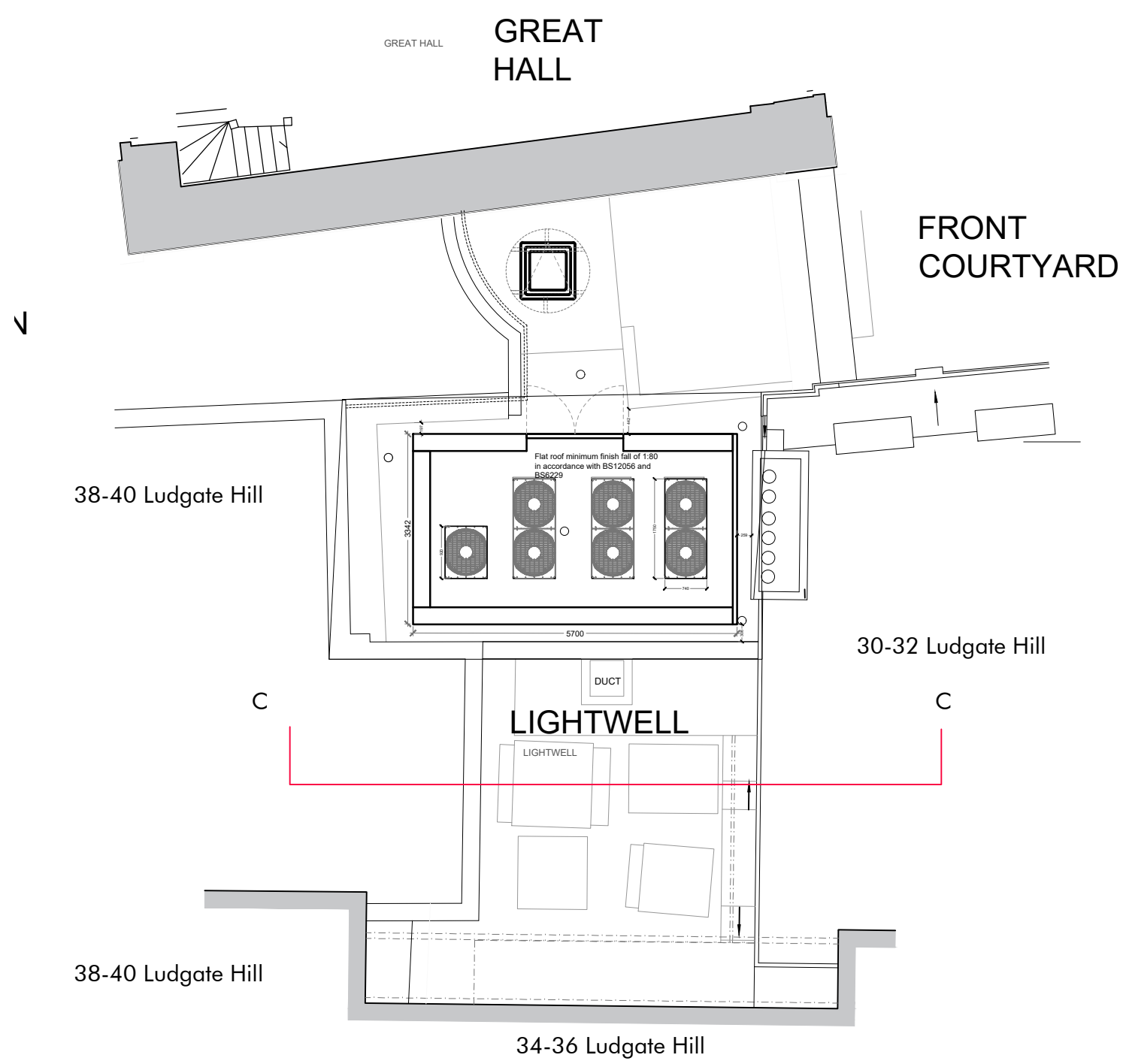
2 Key Plan
AC103 1:100 @ A1

DRAWING STATUS	NOTES	KEY	REVISIONS			REVISIONS			Status: Planning Issue																																						
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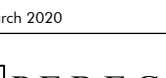
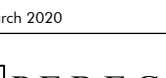
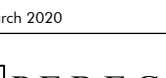
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AC104

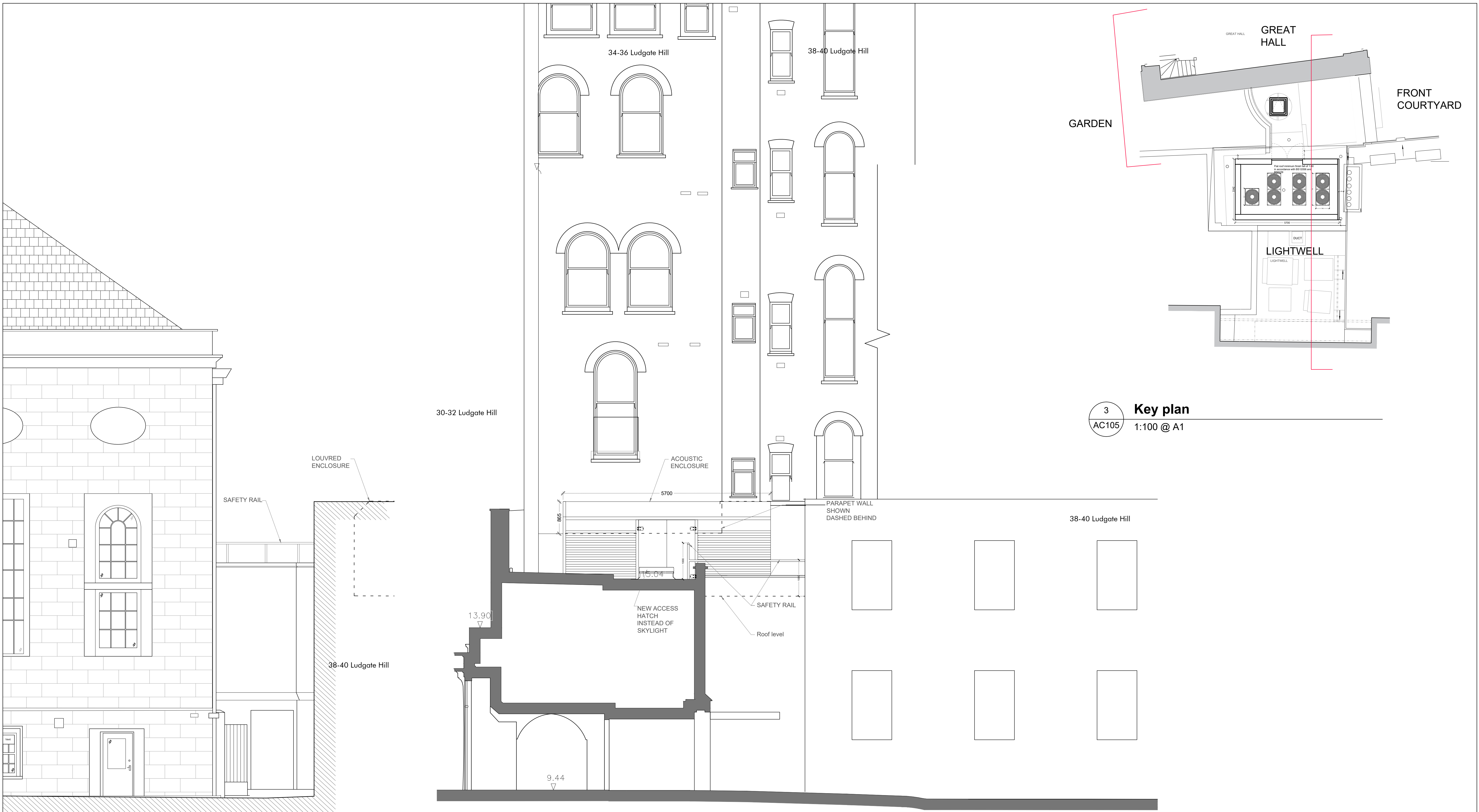
Proposed Section CC
1:50 @ A1



2
AC104

Key plan
1:100 @ A1

DRAWING STATUS			NOTES			KEY			REVISIONS						Project																																																		
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1
AC105

Proposed Section DD

1:50 @ A1

2
AC105


Proposed Section EE

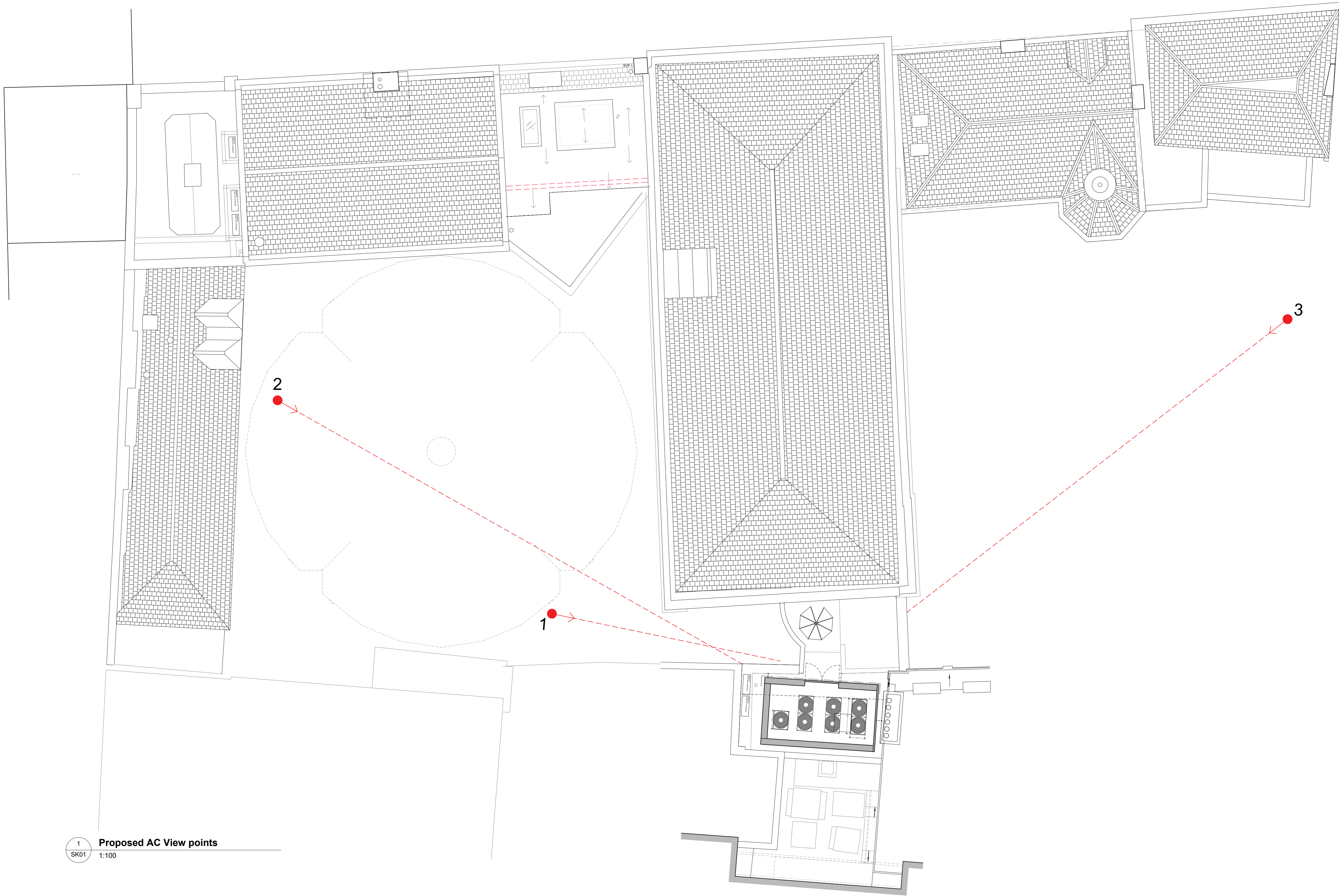
1:50 @ A1

3
AC105

Key plan

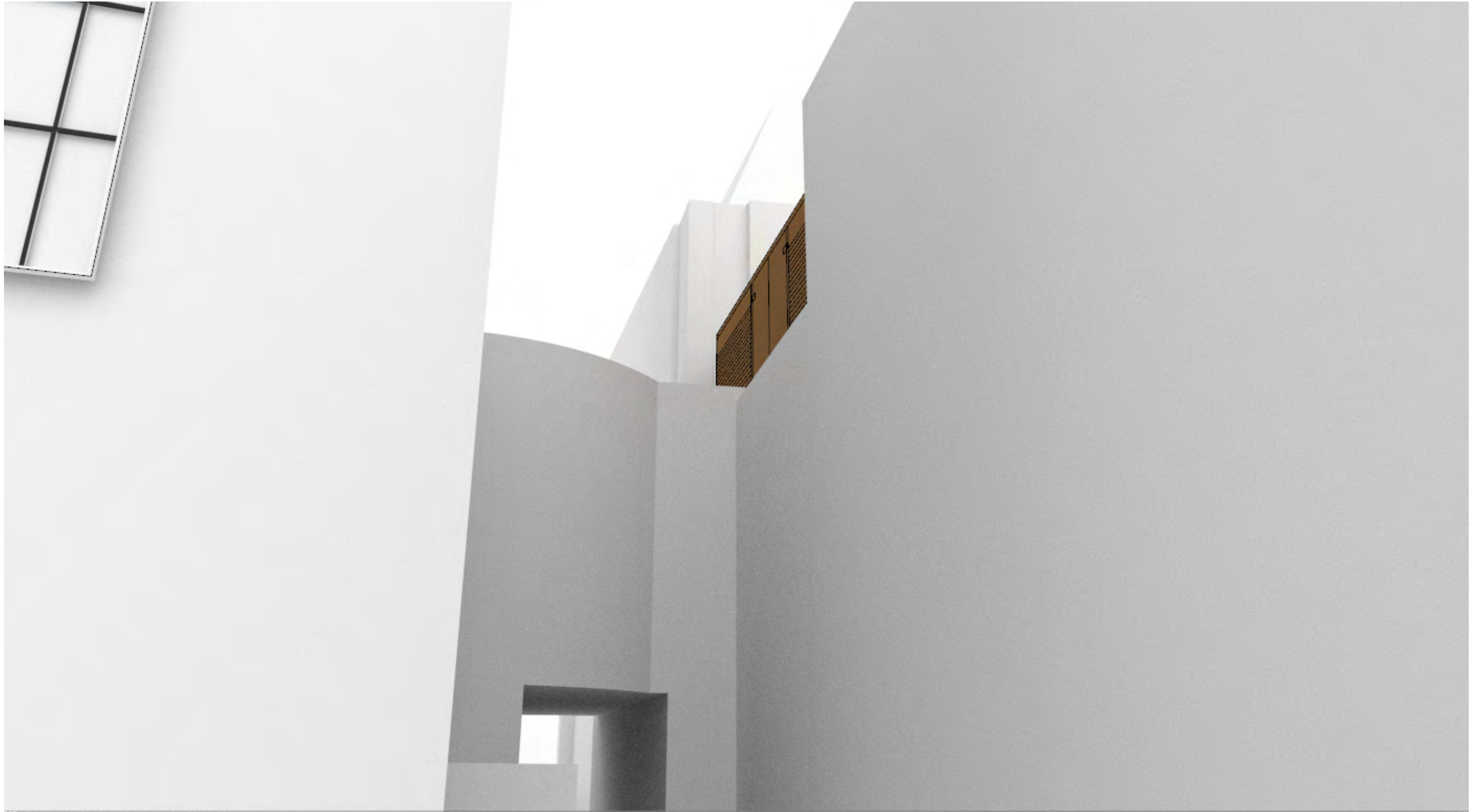
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Proposed AC View points
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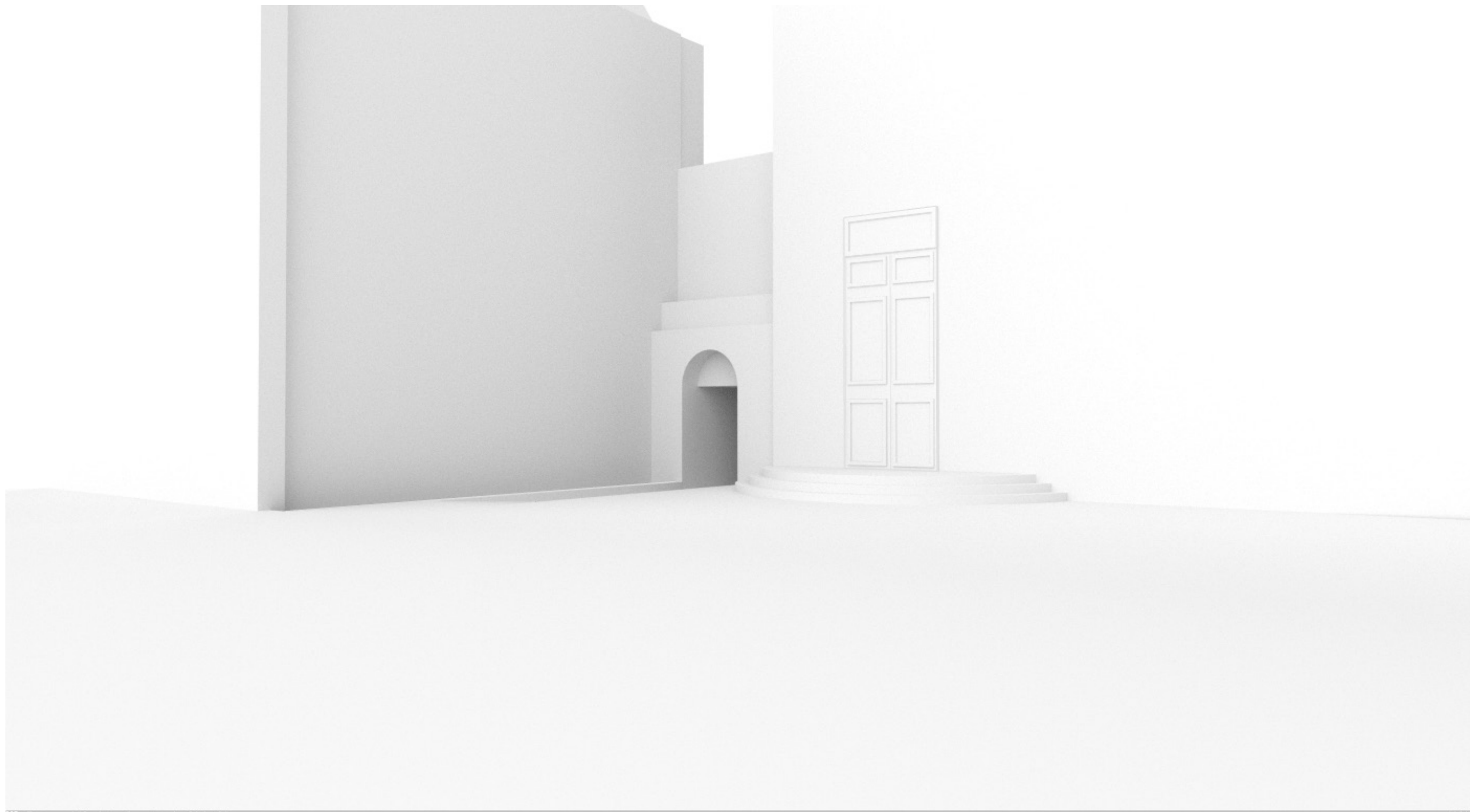
DRAWING STATUS		NOTES	KEY	REVISIONS			REVISIONS			FOR INFORMATION		
<i>S</i> : Survey = Survey		<i>O</i> : Outline = Outline/Scheme Drawings for proposals, budgets etc.	Contractor or subcontractor to check all dimensions on site before building or manufacture.							Project: Stationers' Hall SH 180		
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<i>C</i> : Construction = Fully developed drawings issued under instruction for construction		<i>B</i> : Building Control								Project Ref: Dwg 180/SH/SK01		
<i>T</i> : Tender		<i>I</i> : Information only								Scale@A1Scale@A3 1:100 Drawn: CS Checked: * Revision: /Created: 05/08/20		
										PEREGRINE BRYANT ARCHITECTURE & BUILDING CONSERVATION The Courtyard, Fulham Palace, Bishop's Avenue, London, SW6 6EA T: 020 7384 2111 F: 020 7384 2112 E: info@peregrine-bryant.co.uk		
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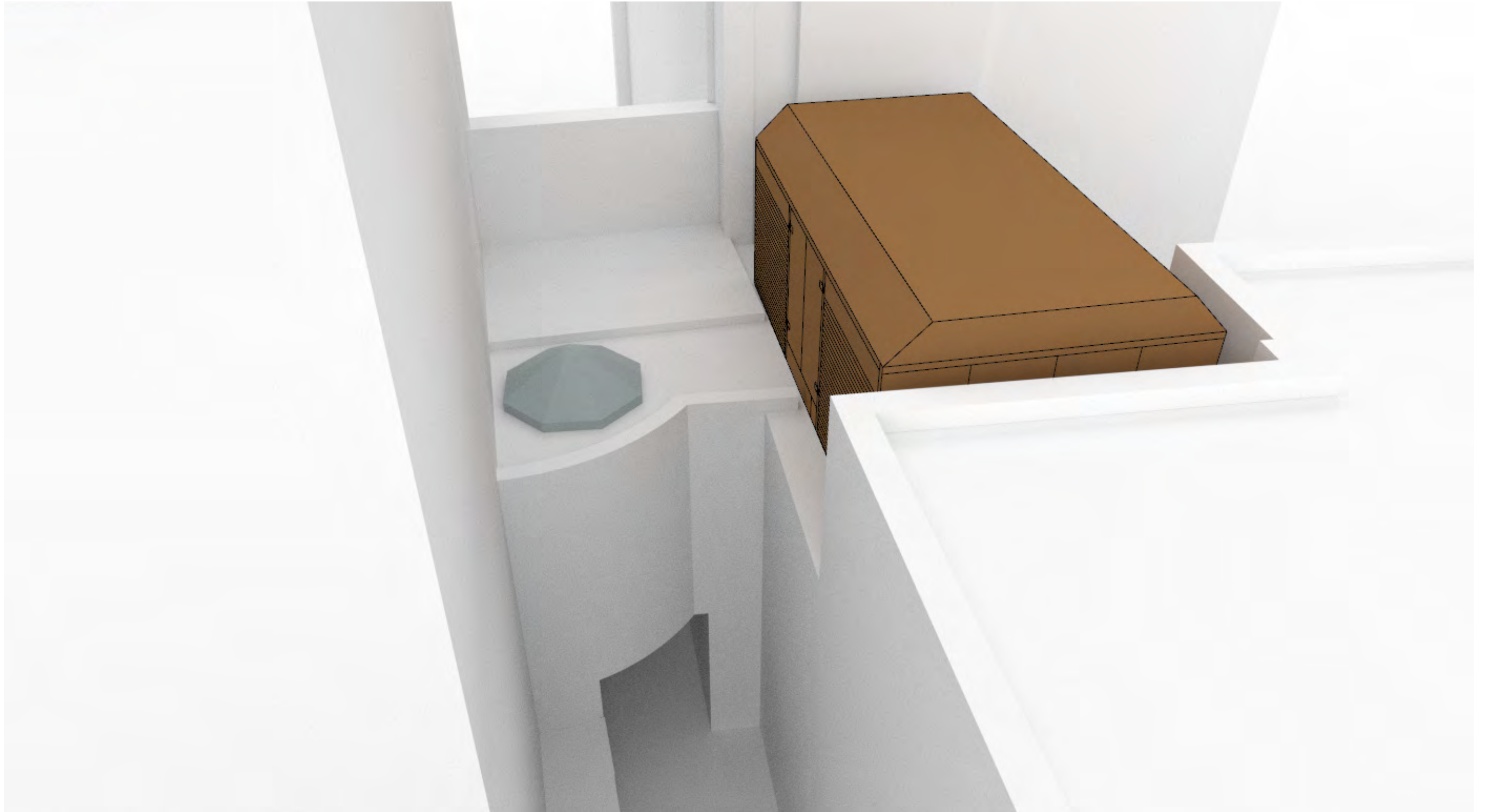
PERSPECTIVE VIEW 01
LOOKING UP



PERSPECTIVE VIEW 02
LOOKING AHEAD- EYE LEVEL



PERSPECTIVE VIEW 03
LOOKING AHEAD - EYE LEVEL



AC UNIT
AERIAL VIEW

180 SH – Large AC – Context Photos 27 11 20arrow



View from Courtyard



Stationers Hall Garden



Image taken from roof.

Perspective



View from 34-36 Ludgate Hill

Views modelled indicatively
Addresses taken from OS map

Prepared by Peregrine Bryant
Architects
21.01.21





Views modelled indicatively
Addresses taken from OS map

Prepared by Peregrine Bryant
Architects
21.01.21



Views modelled indicatively
Addresses taken from OS map

Prepared by Peregrine Bryant
Architects
21.01.21

Location of units





Views modelled indicatively
Addresses taken from OS map

Prepared by Peregrine Bryant
Architects
21.01.21

Perspective ▾

Stationers Hall

30-32 Ludgate Hill

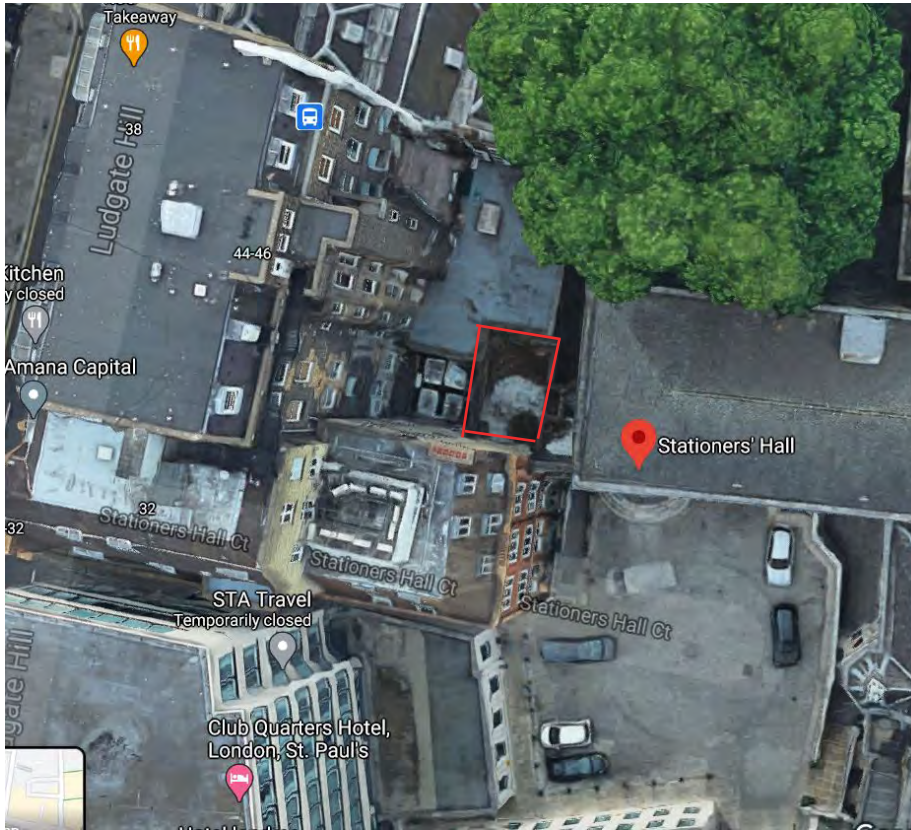
View from 34-36 Ludgate Hill

Raytraced (Cycles) Completed 00:02:29

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Views modelled indicatively
Addresses taken from OS map

Prepared by Peregrine Bryant
Architects
21.01.21



Views taken from Google Earth

plant and enclosure

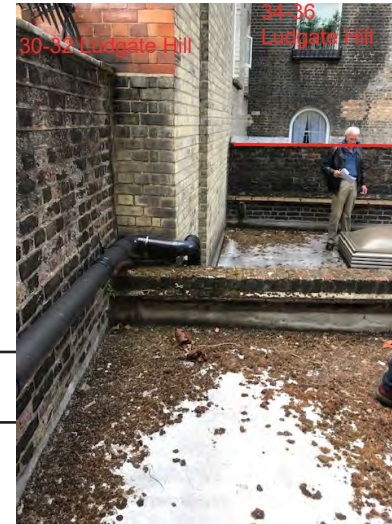
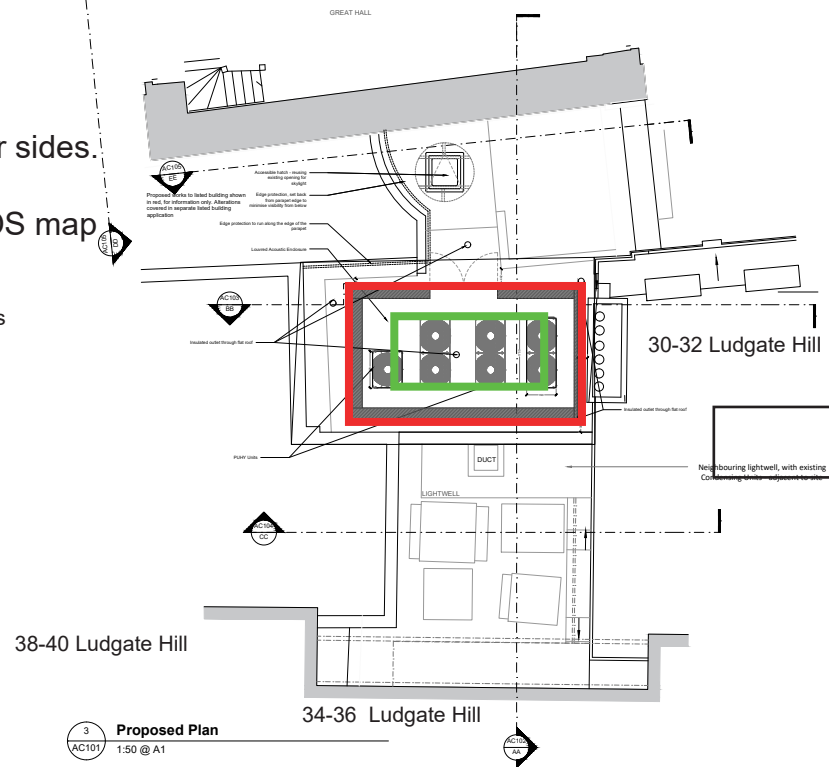
Prepared by Peregrine Bryant Architects
21.01.21

Enclosure Design

Air intake around all four sides.
Air out via the roof.

Addresses taken from OS map
Key:

- Air intake - enclosure sides
- Air out - enclosure roof

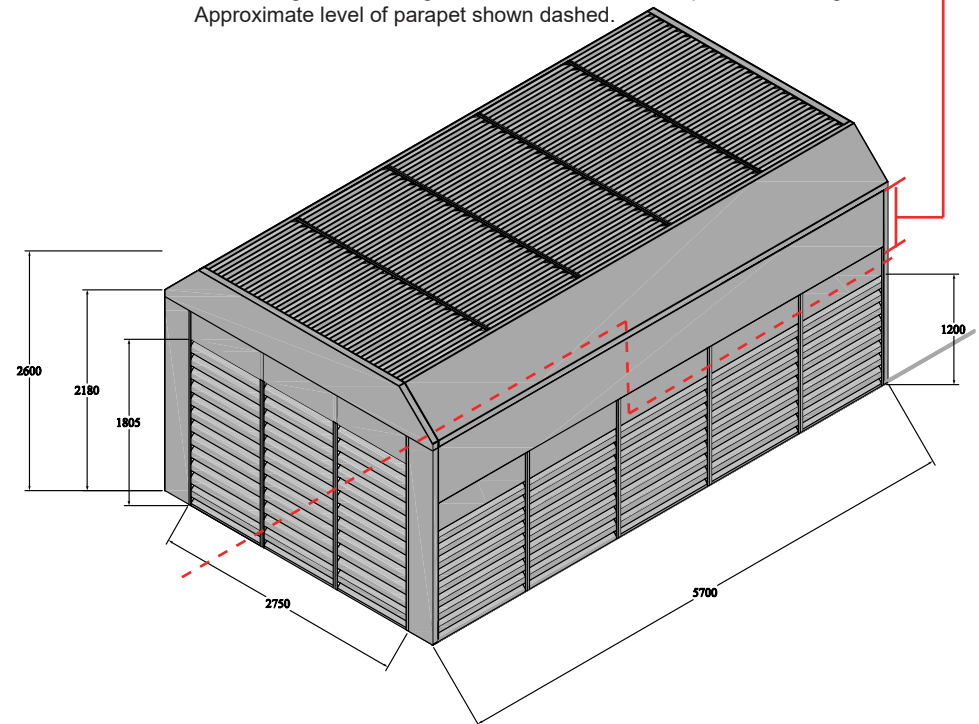
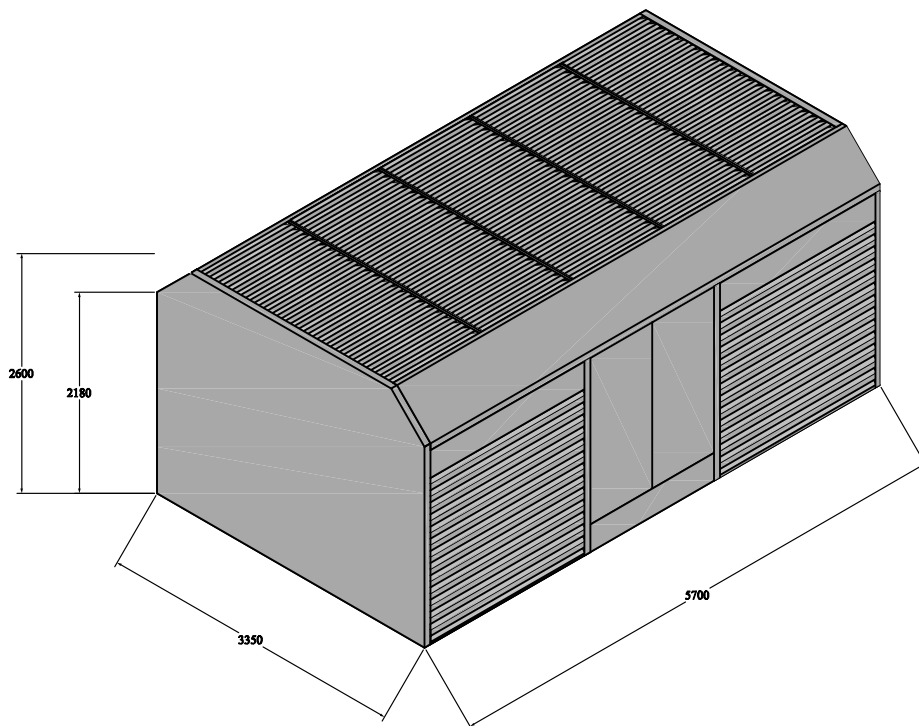


Parapet marked in red.
Looking towards 34-36 Ludgate Hill

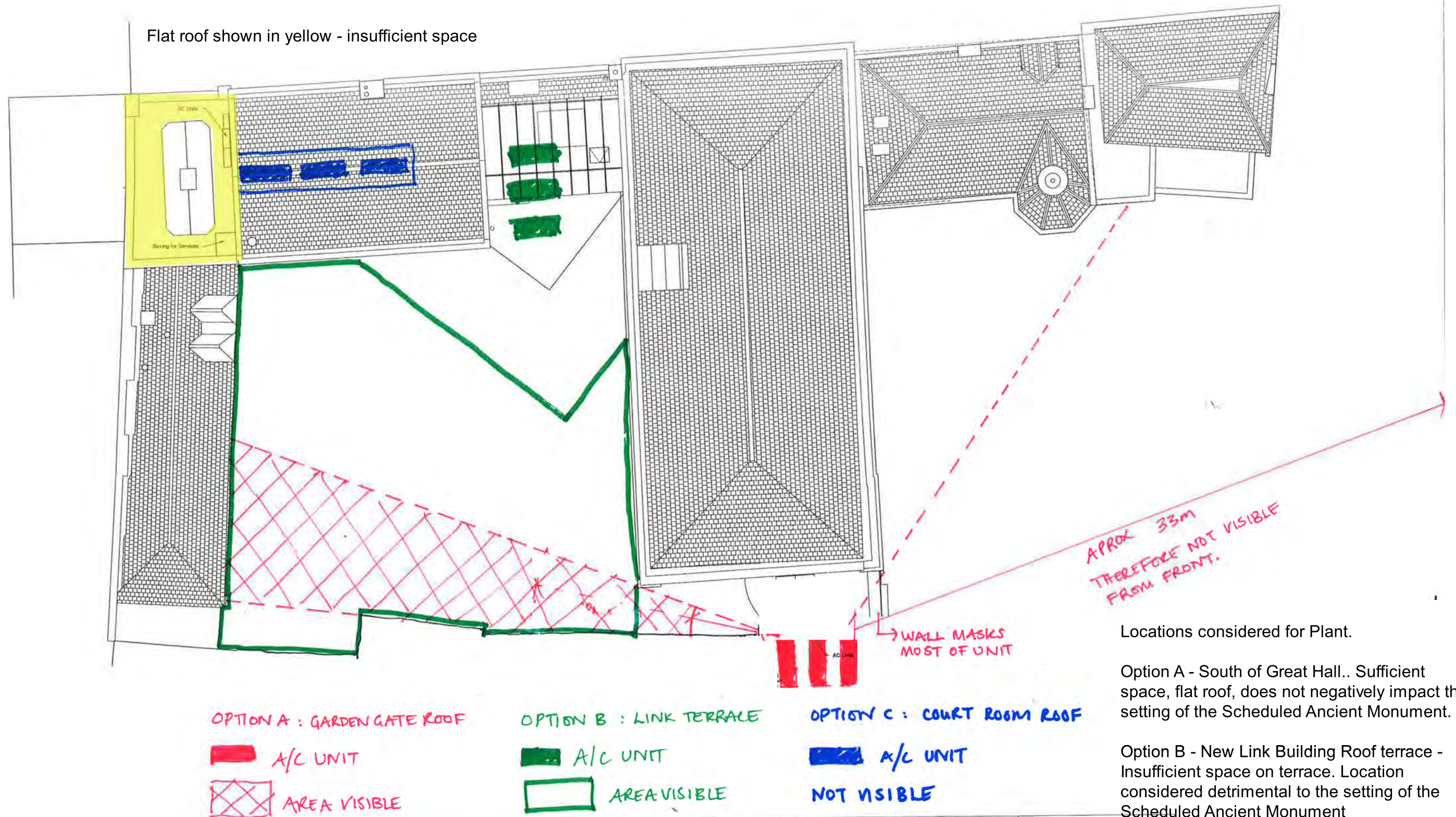


Parapet marked in red.
Looking towards 38-40 Ludgate Hill
Plant enclosure protrudes above lower level
parapet - with plain panel area of enclosure

Plain panel portion of enclosure - which protrudes above the parapet wall facing 34-36 Ludgate Hill. Designed as such to minimise impact on the neighbours.
Approximate level of parapet shown dashed.



Flat roof shown in yellow - insufficient space



Visibility taken from street level

Note units shown without acoustic screen required to reduce noise output to required levels. Screen will require additional space.

Locations considered for Plant.

Option A - South of Great Hall.. Sufficient space, flat roof, does not negatively impact the setting of the Scheduled Ancient Monument.

Option B - New Link Building Roof terrace - Insufficient space on terrace. Location considered detrimental to the setting of the Scheduled Ancient Monument

Option C - Court Room Roof. Considered cutting into the volume of the Court room roof. Insufficient air flow to allow system to work. Requirement for new roof structure and re-roofing.

Prepared by Peregrine Bryant Architects
 June 2019 during design phase. Additoinal information added 20.01.21

**Acoustic Enclosures Limited
Stationers Hall, London**

Noise Modelling of Proposed Enclosure for Air Conditioning Condenser Units

**Prepared By: L Jephson
Version 1.0
15/7/20**

Introduction

It is proposed to provide an enclosure for four Mitsubishi air conditioning condenser units, to be located on a roof to the rear of Stationers Hall, London.

Acoustic Enclosures Ltd have prepared a design for the proposed enclosure, which has subsequently been modelled by LF Acoustics Ltd, utilising the SoundPlan modelling software, to derive the noise levels attributable to the operation of the plant at the facades of the neighbouring property.

This technical note provides the assumptions for the plant and enclosure made within the modelling and presents the calculated noise levels.

Proposed Plant

Three Mitsubishi P500 and one Mitsubishi P300 air conditioning condenser units are to be installed.

Source data for the plant has been provided by Ion Acoustics on the basis that the units would operate at 50% of their capacity. The assumed Sound Power Levels are presented below.

Plant	Octave Band SWL [dB]							Overall A-wtd SWL [dB]
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	
P300	66.0	65.0	64.5	63.5	63.0	59.5	56.0	67.0
P500	71.0	70.0	69.0	68.0	67.0	65.5	62.0	72.0

Proposed Enclosure

The enclosure has been modelled on the basis of the plans and information provided by Acoustic Enclosures. The main enclosure would be constructed from 1.5mm steel with acoustic louvres in three sides and in the roof.

The assumed acoustic performances of the materials are presented below.

Element	Sound Reduction [dB]						
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
Steel	9	14	21	27	32	37	43
Louvres to Sides	6	6	9	13	20	20	10
Roof Louvre	6	8	13	23	38	32	32

Noise Modelling

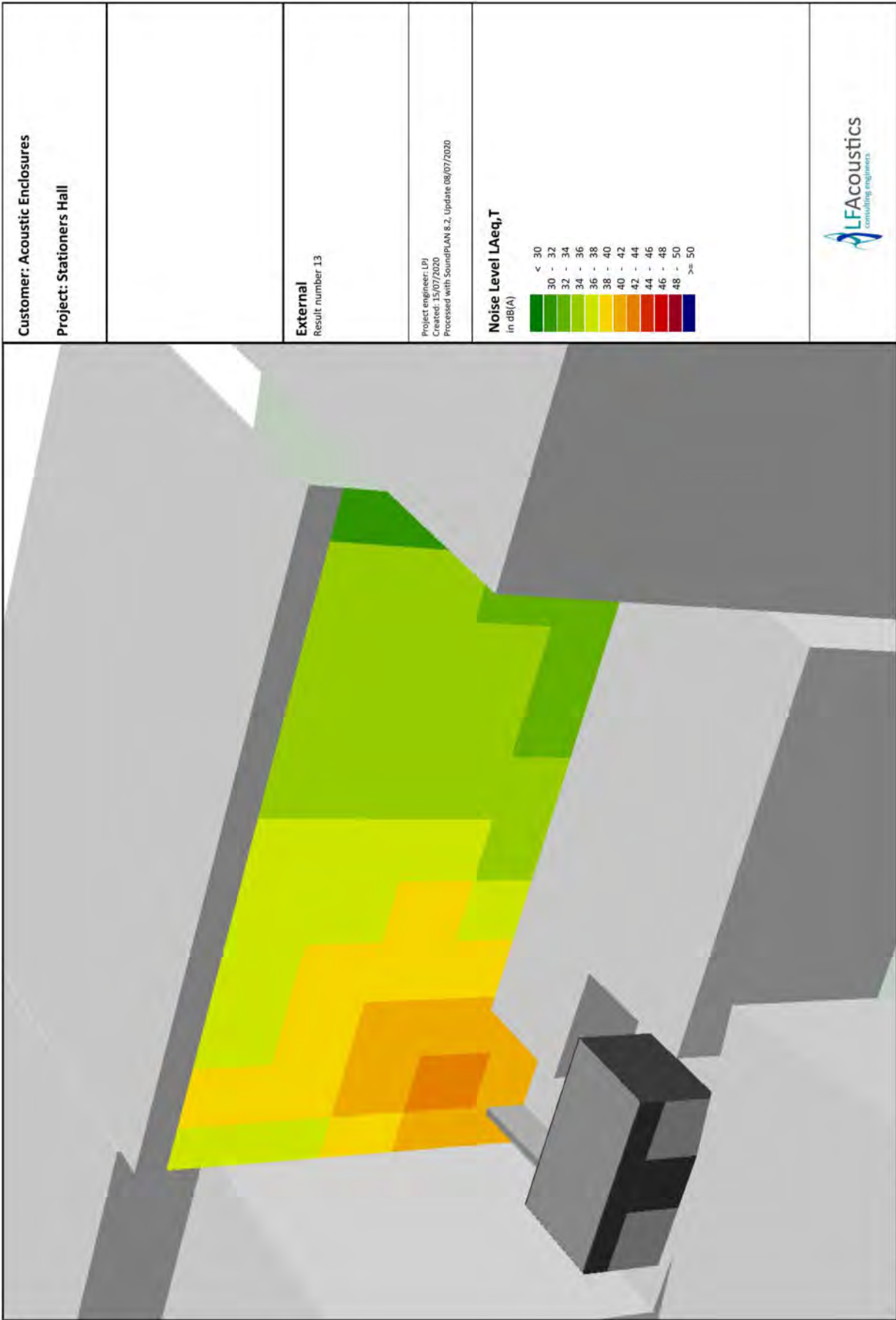
The noise levels associated with the operation of the condenser units has been made on the basis of the four units operating continuously at the given Sound Power Levels. The units have been modelled as internal machine sources in the enclosure within SoundPlan, assuming the overall sound power spread proportionally across each surface and assuming standard hemispherical radiation from each unit.

No account of any directivity effects from the proposed louvres has been taken into account, which have been designed to angle away from the adjacent façade. This approach provides a worst case assumption.

The calculations have taken into account the location of the proposed enclosure, including the effect of the existing walls which are adjacent to two sides of the enclosure.

Calculations of the noise levels have been calculated across the façade of the neighbouring property. The results are presented graphically on the attached figure.

The results indicate the highest noise level at façade adjacent to the proposed enclosure, with a façade level of 42.4 dB $L_{Aeq,T}$ calculated. The modelling results for this position are attached for information.



Stationers Hall Mean propagation Leq - External

10

Legend

Source		Source name
Source type		Type of source (point, line, area)
L _w	dB(A)	Sound power level per m, m ²
L _w	dB(A)	Sound power level per unit
I or A	m, m ²	Size of source (length or area)
S	m	Distance source - receiver
A _{div}	dB	Mean attenuation due to geometrical spreading
A _{gr}	dB	Mean attenuation due to ground effect
A _{bar}	dB	Mean attenuation due to screening
A _{atm}	dB	Mean attenuation due to air absorption
dL _{refl}	dB	Level increase due to reflections
L _s	dB(A)	Unassessed sound pressure level at receiver
$L_s = L_w + K_o + A_{DI} + A_{div} + A_{gr} + A_{bar} + A_{atm} + A_{fol_site_house} + A_{wind} + dL_{refl}$		
dL _w	dB	Correction due to source operation time
L _r	dB(A)	Assessed level of time slice

LF Acoustics

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SoundPLAN 8.2

Stationers Hall Mean propagation Leq - External

10

Source	Source type	L'w dB(A)	Lw dB(A)	I or A m,m²	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	dLrefl dB	Ls dB(A)	dLw dB	Lr dB(A)	
Receiver	FI F 1	Lr24hr,lim	dB(A)	Lr24hr	42.4	dB(A)	Sigma(Lr24hr)	0.0	dB(A)					
East Facade	Area	41.4	50.8	8.7	7.26	-28.2	1.1	-5.7	0.0	2.3	23.3	0.0	23.3	
Front Louvre	Area	50.7	56.0	3.5	8.28	-29.4	0.1	-9.0	0.0	3.3	24.1	0.0	24.1	
Front Louvre	Area	51.9	57.5	3.6	7.54	-28.5	0.1	-8.4	0.0	2.8	26.5	0.0	26.5	
North Facade	Area	38.4	47.3	7.8	7.52	-28.5	1.0	-5.6	0.0	2.1	19.3	0.0	19.3	
Rear Louvre	Area	52.9	61.2	6.8	5.21	-25.3	0.2	-3.4	0.0	3.6	39.2	0.0	39.2	
Roof 01	Area	41.2	40.5	0.9	5.58	-25.9	1.1	-4.0	0.0	2.0	13.8	0.0	13.8	
Roof Louvre	Area	47.4	60.0	18.2	5.55	-25.9	0.6	-3.7	0.0	1.8	32.8	0.0	32.8	
Side Louvre	Area	52.1	59.8	5.9	5.99	-26.5	0.1	-5.1	0.0	4.8	36.1	0.0	36.1	
South Facade	Area	42.1	51.1	8.0	4.50	-24.1	1.1	-0.7	0.0	1.7	32.1	0.0	32.1	
West Facade	Area	38.4	42.8	2.8	5.42	-25.7	1.0	-2.6	0.0	3.1	21.6	0.0	21.6	

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SoundPLAN 8.2

Great Hall, Stock Room and Court/Card Room Energy and carbon emissions study

A thermal modelling exercise has been undertaken to estimate the energy consumption for the current heating system in the Great Hall, Court and Card Room and Stock Room. We have then also run simulations for heating via ASHP and also heating and cooling via ASHP. From the energy consumption we have calculated the carbon emissions and running costs for each of the systems.

The modelling is carried out using IES Virtual Environment software and utilises CIBSE Test Reference Year (TRY) weather file data to simulate typical external temperatures throughout a given year. As a result the estimated energy consumption is typical as it takes into account weather fluctuations throughout the year for example heating being used in cold winter months, cooling in hot summer months and milder weather in mid seasons. As a result there may be periods in mid seasons where neither heating or cooling is needed to achieve a comfortable temperature and this is reflected in the estimated energy numbers below.

These calculations do not include the passive measures considered (for example solar film, roof insulation etc) which would further reduce energy usage.

The cooling system capacity is limited to the number of fan coil units that can be installed within the rooms - therefore during peak summer high temperatures there may be short periods in which the system cannot bring the internal temperatures down to 22°C (as outlined in our separate thermal modelling report). During the winter the system is designed to be able to reach internal temperatures of 21°C during external temperatures of as low as -4°C (as CIBSE Heating Design Guides).

Scenario	Annual Energy	Annual energy cost	Cost saving	Annual carbon emissions	Carbon reduction
1 Baseline (existing gas boiler and radiators)	205,402 kWh	£ 8,216	N/A	44,367 kgCO ₂	N/A
2 ASHP Heating Only	32,472 kWh	£ 4,546	45%	7,566 kgCO ₂	82.9%
3 ASHP Heating and cooling (Heavy cooling Use)	40,007 kWh	£ 5,601	32%	9,322 kgCO ₂	79.0%
4 ASHP Heating and Cooling (Medium cooling Use)	37,172 kWh	£ 5,204	37%	8,661 kgCO ₂	80.5%
5 ASHP Heating and cooling (Light cooling use)	35,806 kWh	£ 5,013	39%	8,343 kgCO ₂	81.2%

Where cooling is split into heavy, medium and light these can be described as below:

- 1 (COOLING HEAVY USE I.e. cooling operational every day when temp is above 22°C)
- 2 (COOLING MEDIUM USE I.e. cooling operational FRI/SAT/SUN ONLY when temp is above 22°C)
- 3 (COOLING Light USE I.e. cooling operational SAT ONLY when temp is above 22°C)

Notes:

- 1 Electrical carbon factor used 0.233kgCO₂/kWh as per GLA London Plan
- 2 Gas carbon factor used 0.22 kgCO₂/kWh taken from Non-domestic building compliance guide
- 3 Electricity cost £0.14/kWh taken from historical bills and rounded up to nearest pence
- 4 gas costs £0.04 kgCO₂/kWh taken from historical bills and rounded up to nearest pence
- 5 ASHP calculations completed with seasonal CoP of 4.84 from Mitisibushi
- 6 Cost saving and carbon reduction percentages are taken over the baseline existing gas fired heating system
- 7 Passive measures included in scenarios 3, 4 and 5 are as per PBA report received 14/07/20
- 8 Figures and results are approximate and are for the three spaces only (i.e. not for the whole building)
- 9 Heating and cooling is modelled to operate between 7am-6pm only
- 10 Heating is set to operate with a set point of 21°C - there should be zero hours below 21°C during heating operation (based on a worst case external temperature of -4°C)

Technical Note

Project Title	Stationers Hall		
Subject	Computer Thermal Modelling	Date	15 th May 2020
Author	Barry Peebles	Our Ref	1230LSHg 200515a-CTM Results

Computer Thermal Modelling

We have constructed a computer model of the building, added construction information such as wall construction, U-values and occupancy hours, and run various simulations in order to assess the likely temperature conditions within the building under 8 scenarios:

Scenario 1: Existing building, no cooling and no opening windows

Scenario 2: As Scenario 1 but with some opening windows when the internal temperature is above 25C (open between midday and 11pm when hot)

Scenario 3: As Scenario 1 but with cooling units added in place of current radiator locations with cooling set point at 23C operating midday to 11pm when required.

Scenario 4: As Scenario 2 but with the following passive measures:

- Film applied to glass (where glass not stained – Sun-X MT50 G-value 0.42)
- Blinds installed (curtains to Court room instead of blinds) – Sun-X sunscreen shading coefficient 0.63
- Insulation applied at roof level (100mm thickness with thermal conductivity 0.034W/mK)
- Air tightness of windows and doors improved (reduced in model from 0.5ach to 0.25ach)

Scenario 5: As Scenario 1 but with the above passive measures

Scenario 6: As Scenario 1 but with blinds only (no other passive measures) (Curtains to court room instead of blinds.

Scenario 7: As Scenario 1 but with film applied to glass only (no other passive measures)

Scenario 8: As scenario 3 but with film applied to the glass

The results of the computer simulations are shown below:

Space	Scenario	Description	Occupied Hours (approx.)	Hours Over 25C (approx.)	%
Great Hall	1	Existing	2,800	580	20%
	2	Opening windows	2,800	400	14%
	3	Cooling units	2,800	20	1%
	4	Passive with opening windows	2,800	367	13%
	5	Passive without opening windows	2,800	518	18.5%
	6	Blinds only without opening windows	2,800	540	19%
	7	UV Film only without opening windows	2,800	529	18.8%
	8	Cooling with film	2,800	14	0.5%

Space	Scenario	Description	Occupied Hours (approx.)	Hours Over 25C (approx.)	%
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Court/Card Room	1	Existing	3,300	800	25%
	2	Opening windows	3,300	640	19%
	3	Cooling units	3,300	60	2%
	4	Passive with opening windows	3,300	594	18%
	5	Passive without opening windows	3,300	604	18.3%
	6	Curtains only without opening windows	3,300	609	18.5%
	7	UV Film only without opening windows	3,300	612	18.5%
	8	Cooling with film	3,300	51	1.5%

Space	Scenario	Description	Occupied Hours (approx.)	Hours Over 25C (approx.)	%
Stock Room	1	Existing	3,900	750	19%
	2	Opening windows	3,900	530	14%
	3	Cooling units	3,900	40	1%
	4	Passive with opening windows	3,900	496	13%

	5	Passive without opening windows	3,900	545	13.9%
	6	Blinds only without opening windows	3,900	559	14.3%
	7	UV Film only without opening windows	3,900	552	14.1%
	8	Cooling with film	3,900	38	0.9%

Notes:

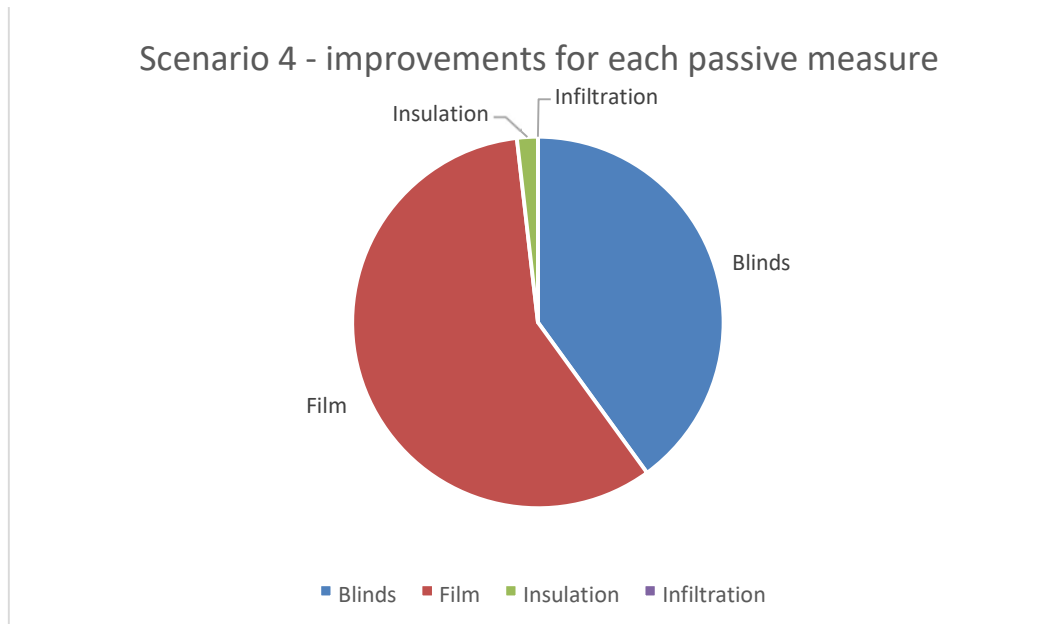
Occupied hours taken from occupancy information provided by Stationers over a typical week (with the same occupancy repeated every week for a year) Great Hall for example is occupied for approximately 53 hours per week.

London DSY weather file used in simulation – the weather file simulates a hot year of weather and has approximately 270 hours where the external temperature is above 25C.

Fan coils units that are installed in place of radiators have a cooling output of 5kW each.

Scenario 4 breakdown

The below chart provides a summary of the split in improvements across the four passive measures outlined for scenario 4. The window film and blinds (or curtains in the Court Room) provide the largest reduction to the hours of overheating. Improvements to the infiltration provide no reduction in hours above 25°C. This is because although it reduces the amount of hotter air to enter the space during the day it also reduces the amount of cooler air which would enter the space overnight and help cool the air and thermal mass. The additional roof insulation provides a small benefit (compared to glazing treatment), albeit still an improvement and this is partly due to the limited difference in temperature between the inside and outside during the summer weather. However, the infiltration and insulation measures would reduce the heating demand during the winter heating season as these measures have more of an impact when the temperature differences between outside and inside are larger during the winter.



Summary

The results from the computer simulations should be taken as approximate and relative due to the uncertainties in various variables such as actual occupancies, actual window openings etc.

It is clear that replacing the existing radiator locations with fan coil units (that can provide heating and cooling to the spaces) can significantly reduce the numbers of hours that the spaces will overheat above 25°C.

The four passive measures outlined (film, blinds, roof insulation and infiltration) all have varying effects – the film and blinds providing the most significant impact in reducing the number of hours above 25°C in all three spaces. Roof insulation and infiltration reduction (window/door seals) provide little to no benefit in number of hours above 25°C but should still be considered to help reduce heating energy demand in the winter.

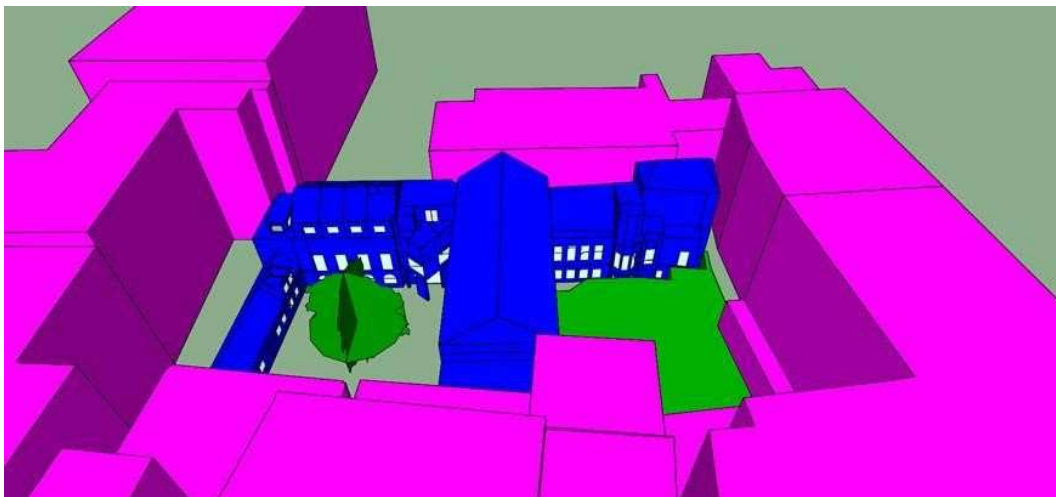


Figure 1: Computer model of Stationers Hall with surrounding buildings

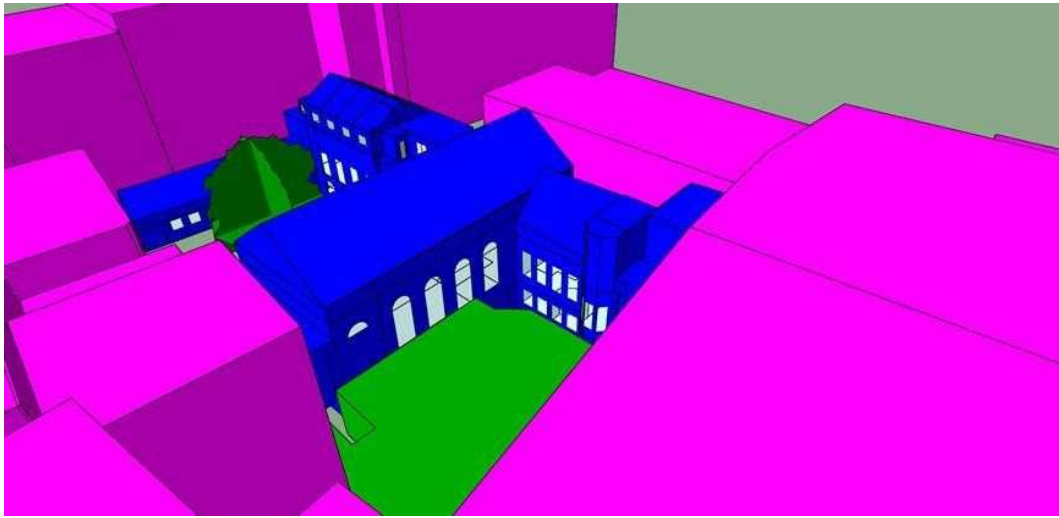


Figure 2: Computer model of Stationers Hall



STATIONERS' HALL

EXTERNAL PLANT NOISE ASSESSMENT

Acoustics Report A1423/R01d

6th January 2021

Report for:

The Stationers' Company
Stationers' Hall
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Appendix A – Tabulated Noise Survey Data

Appendix B – Plant Noise Calculations



1 Introduction

Ion Acoustics is appointed by the Stationers' Company to advise on specific plant noise issues for the refurbishment of Stationer's Hall in London. In particular, this report relates to external noise emissions from new kitchen extract and supply plant, new external condenser units serving offices and meeting areas and external noise from MHVR units, all of which now has planning permission. It also is now revised to include noise from additional proposed cooling plant serving the main Hall, Courtroom and the Stockroom which is proposed to be located on a flat roof to the south of the site.

Ion Acoustics carried out a noise survey on 25th to 26th February 2019 to determine the existing background noise levels at noise-sensitive locations and internal noise levels in the Card Room. The external noise levels have been used to derive a noise limit in line with standard City of London noise criteria for planning. Plant noise levels have been calculated to the nearby sensitive receptors and compared with the derived noise limit.

This report describes the noise surveys, plant noise predictions and sets out information on compliance with limits. This report has been revised from several earlier versions following design development including changes to plant and locations of plant. This latest revision also includes the new large cooling scheme which was not included in previous iterations of the report. The noise assessment is of the aggregate of the noise from both sets of plant.

2 Scheme Details

2.1 Site Location and Details

Stationers' Hall is a listed building near St Paul's Cathedral which is the home of The Stationers Company, the livery company for the communication and content industries. The main building was built in 1673. The building has a number of halls and rooms which are used by the Company and also let out to third parties for various events. There are also offices and catering facilities including a catering kitchen.

Figure 1a indicates the location of the site in context of the surrounding area, with the measurement position and nearest noise-sensitive receptors indicated. It also identifies the main plant locations. Figure 1b shows the site with the approximate location of the plant and the position of the receptors used in the calculations.

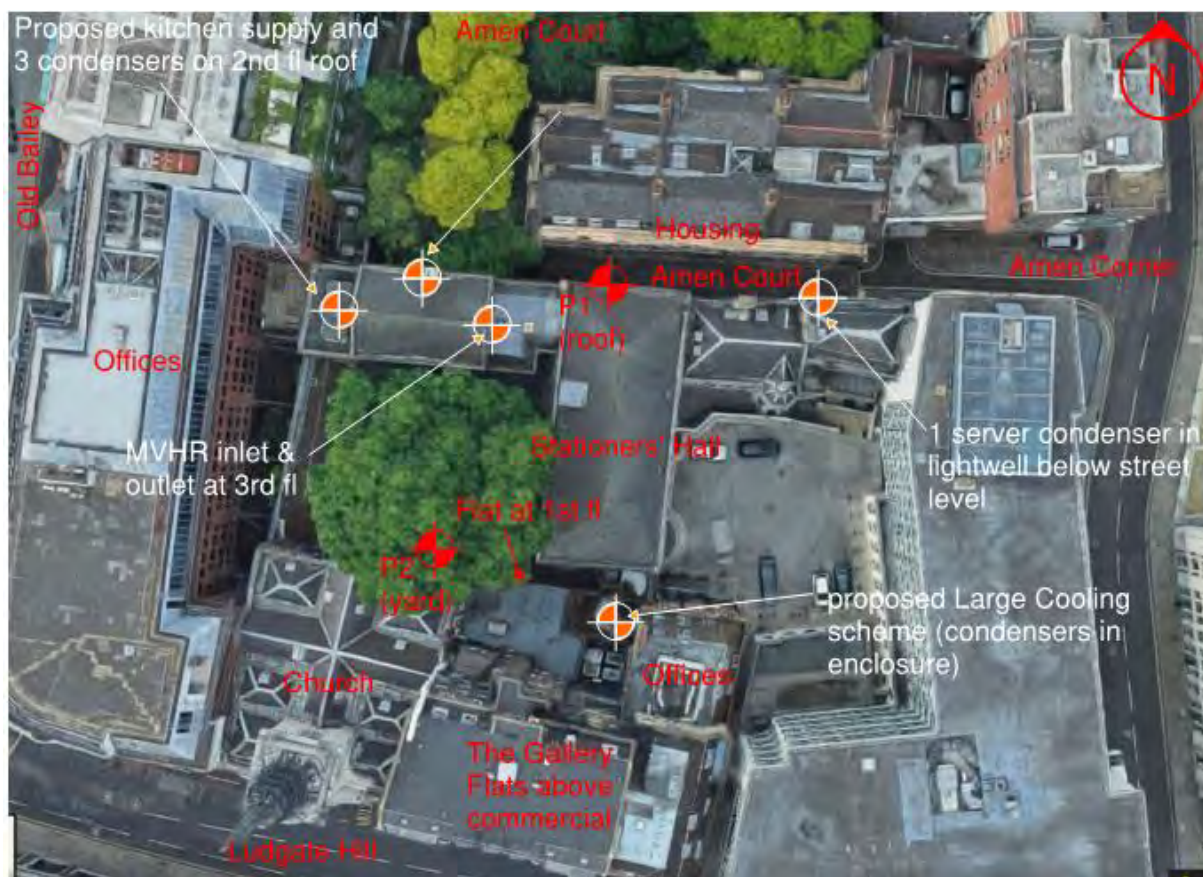


Figure 1a – Site Plan – showing the measurement locations (P1 & P2) and residences

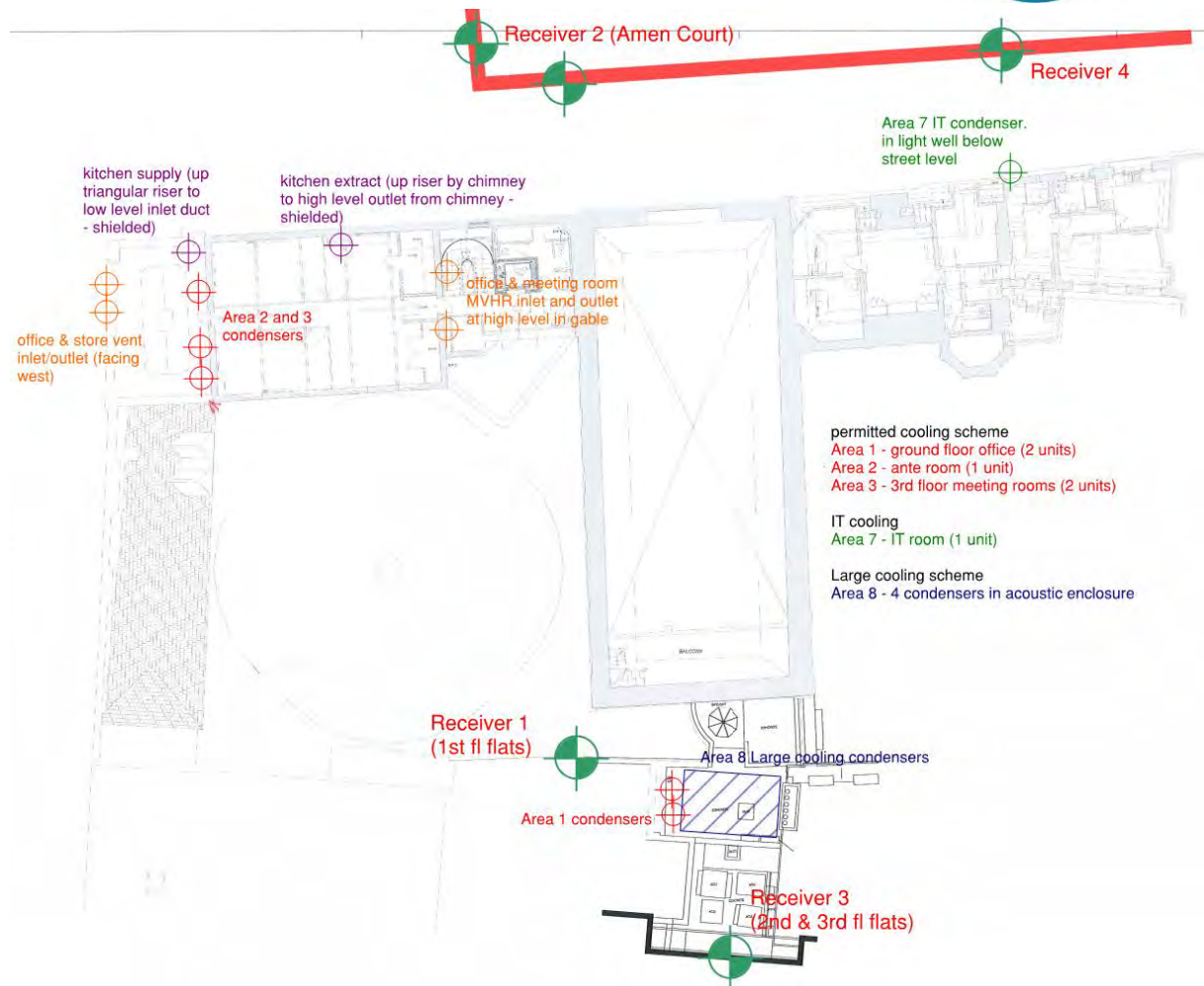


Figure 1b: Site Plan with Receptor Locations and approx plant locations

2.2 Proposed Plant

The proposed plant considered in this assessment is described below. The plant noise data has been provided in the form of the manufacturer's published data. The spectral sound data is given in the calculations in Appendix B.

Kitchen Supply

A kitchen supply fan is located at ceiling level in ground floor kitchen; the supply air is ducted from the 3rd floor roof above the card room via the norther triangular builders work riser in the corner of the Card room.

Kitchen Extract (VES TLL630/42-3)

The kitchen extract fan is also located at ceiling level in the ground floor kitchen and ducted to the exterior via an existing builders work riser up the side of the chimney breast in the Court Room. This terminates out of the chimney on the south side (through an existing opening) facing away from Amen Court and towards the pitched roof.



The kitchen supply and extract fans would operate during kitchen hours only, which could include morning preparation for lunch and dinner services. So only daytime and evening use is considered.

Outdoor Condenser units

The scheme includes condensers serving four separate areas which are described below.

General Cooling and Heating to offices and Meeting Rooms (all Mitsubishi PUMY SP112YKM)

Area 1 (ground floor office below main hall) – 2 condensers on flat roof to south of main hall

Area 2 (ante room) – 1 condenser on flat roof above card room at NW corner of site

Area 3 (3rd floor meeting rm) – 2 condensers on flat roof above card room at NW corner of site.

Server Room Cooling (Mitsubishi PUZ ZM35VKA)

Area 7 – 1 condenser in lightwell below street level at north east corner of site on Amen Court.

MVHR Units

3rd floor offices – in 3rd floor ceiling void ducted to inlet and outlet grilles on gable wall facing east (Nuaire XBC55)

Store and office – in 1st floor ceiling void, ducted to west side facing office blank wall (Nuaire X Box XBC25)

Main Hall Cooling Plant (Large Cooling Scheme)

This comprises four condenser units to be located on the existing flat roof in a bespoke attenuated acoustic enclosure. This serves main hall, courtroom and the stock room. The units are:

3 x Mitsubishi PURY P500 units

1 x Mitsubishi PURY P300 unit

These units will be fixed to run at 50% duty and will all be located within the bespoke enclosure. The combination of the unit duty and the form of the enclosure has been selected to meet the noise limits. The form and performance of the enclosure has been designed by Acoustic Enclosures Limits in discussion with the design team and their acoustic advisers LFAcoustics.

3 Acoustic Criteria

3.1 Local Planning Authority Criteria – External Noise Emissions

The full scheme has not been submitted for planning and therefore there are no planning conditions yet for the major scheme. However, the smaller plant included in the earlier iterations has planning permission including a noise condition, which it is assumed would be implemented in a similar form for the larger Main Hall plant. In particular, this condition states:

2(a) The level of noise emitted from any new plant shall be lower than the existing background level by at least 10 dBA. Noise levels shall be determined at one metre from the window of the nearest noise sensitive premises. The background noise level shall be expressed as the lowest LA90 (10 minutes) during which plant is or may be in operation.



(b) Following installation but before the new plant comes into operation measurements of noise from the new plant must be taken and a report demonstrating that the plant as installed meets the design requirements shall be submitted to and approved in writing by the Local Planning Authority.

(c) All constituent parts of the new plant shall be maintained and replaced in whole or in part as often is required to ensure compliance with the noise levels approved by the Local Planning Authority.

REASON: To protect the amenities of neighbouring residential/commercial occupiers in accordance with the following policies of the Local Plan: DM15.7, DM21.3.

The current version of BS4142:2014 now stipulates that the minimum measurement period is 15 minutes, rather than the 10 minutes stated and it also requires the limit to be derived based on the typical background noise level rather than the lowest value. It is assumed therefore, that the more up to date guidance should apply and this assessment is prepared on that basis.

The condition also indicates that commissioning noise measurements are likely to be required before the plant is put into operation.

3.2 BS4142: 2014 – Assessment Principles

The LPA guidance refers to BS4142 for the measurements and assessment. A BS 4142 assessment is made by determining the difference between the plant noise under consideration and the background sound level as represented by the L_{A90} parameter, determined in the absence of the intrusive noise. The L_{A90} parameter is defined as the level exceeded for 90% of the measurement time. Therefore, it represents the underlying noise in the absence of short-term events.

BS4142: 2014 states: *'In using the background sound level in the method for rating and assessing industrial and commercial sound it is important to ensure that values are reliable and suitably represent both the particular circumstances and periods of interest. For this purpose, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods.'*

The plant noise under consideration is assessed in terms of the ambient noise level, L_{Aeq} , but a character correction penalty can be applied where the noise exhibits certain characteristics such as distinguishable tones, impulsiveness or, if the noise is distinctively intermittent. The ambient noise level, L_{Aeq} is defined as the steady-state noise level with the same energy as the actual fluctuating sound over the same time period. It is effectively the average noise level during the period. The plant noise level (L_{Aeq}) with the character correction (if necessary) is known as rating level, L_{Ar} , and the difference between the background noise and the rating level is determined to make the BS 4142 assessment. The standard then states:

- *"Typically, the greater the difference, the greater the magnitude of the impact.*
- *A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
- *A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context*



- *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."*

The standard outlines a number of methods for defining appropriate 'character corrections' to determine the rating levels to account for tonal qualities, impulsive qualities, other sound characteristics and/or intermittency.

The standard also highlights the importance of considering the context in which a sound occurs. Factors including the absolute sound level, the character of the sound, the sensitivity of the receptor and the existing acoustic character of the area should be considered when assessing the context.

4 Noise Survey

A baseline noise survey was carried out between 25th and 26th February 2019, to determine the baseline noise climate and hence derive plant noise limits. The measurements were made with two logging sound level meters set up externally and also a series of short-term attended measurements in the card room.

4.1 External Logging Measurements

Two logging positions were used: one on the roof of the main hall overlooking Amen Court (position P1) and one in the rear courtyard (P2) as shown in Figure 1. The logging meters were calibrated prior to use and on completion using a Brüel & Kjaer 4231 calibrator, with no drift recorded. The meters were set to log in 15-minute samples over a period including day, evening and night. The meters were unattended except for set up and collection. Both measurement positions were at least 3.5m away from vertical reflecting surfaces and are therefore considered to be free field locations, that is away from reflecting surfaces (other than the ground).

P1 Amen Court

A Rion NL52 sound level meter was used with a Type WS-15 windshield and set up with the microphone attached to a short pole on the roof attached to the perimeter railings and immediately opposite the upper floor windows of the housing on Amen Court (Figure 2)



Figure 2: Location of microphone at P1 overlooking Amen Court

P2 Courtyard

A Larson-Davis LD820 sound level meter was used at P2 with a BAP 01 windshield. This was set up on a tripod on a flower bed in the courtyard of the Stationers' Hall (Figure 3). This was located close to the windows of the first-floor flats overlooking the courtyard next to the Main Hall.



Figure 3: Location of microphone at P2 in Courtyard below Flat windows

Subsequent to the initial survey, the proposed location of the condensers, and the Main Hall cooling plant, was relocated to the flat roof above a single storey part of the stationers' hall property. This location is below and overlooked by the rear of flats at The Gallery Ludgate Hill. The first-floor flats do not have a direct line of sight to the new condenser location and the 2nd and 3rd floor flats of The Gallery building behind would be the most sensitive receptor. We have inspected the roof area where the plant is proposed and the plant noise from the large offices to the west, which dominates the background noise, was still a similar level (if not higher) on that roof. Furthermore, the residential windows overlook a small light well which is filled with other building services plant. Therefore, the measurement position at P2 is considered a conservative proxy position and suitable to represent the levels at the 2nd / 3rd floor housing. It is expected that levels affecting the 2nd/3rd floor windows may be slightly higher given the presence of other ventilation plant, however the hours of operation of the plant in the lightwell are not known and therefore we have not considered their noise as representing the background level.

Weather Details

On setup, the weather was mild and dry with no obvious wind and no cloud. On collection, there was again little cloud cover, and again no noticeable wind movement. The survey period had been selected to have a forecast of dry weather with little wind. The weather would have had no impact on the noise levels measured and was suitable for such measurements.



4.2 Measurements of Existing Noise Levels

The card room is at the north west corner of the building. One of the kitchen ducts will pass through the corner of the room within the brick builders work riser. Additionally, there is a single glazed lantern at high level which provides natural light to the space and three of the condenser units will be located close to this. Therefore, the baseline levels have been measured as they are relevant to consider in the context of assessing the new noise sources.

Additionally, a short measurement was made in Amen Court of the existing kitchen fans externally.

These measurements were all carried out using the a Rion NL52 sound level meter which was calibrated prior to the measurements and on completion.

5 Survey Results

5.1 Site Observations

At both positions the noise climate was dominated by noise from building services plant on nearby buildings, and in particular from a large office development to the west. Plant noise was steady and audible clearly in the courtyard, on the roof and on Amen Court at street level. We have visited the site on several occasions since the survey for meetings and the plant noise has been present on all occasions (summer and winter).

5.2 Noise Results

The full survey results are tabulated in Appendix A. The measured noise data is displayed on a graph in Figure 4 and 5 in terms of the following parameters:

- The ambient level (dB L_{Aeq}). This is defined as the steady-state sound level which as the same energy as the fluctuating noise over the same time periods (15 minutes). It is effectively the average sound level.
- The background sound level (dB L_{A90}). This is defined as the noise exceeded for 90% of the measurement period. It is used to represent the background sound level, that is the underlying sound level in the absence of short-term events.
- The maximum sound level. This is the maximum A-weighted sound level during the measurement period.

The charts show the noise levels from the full period, but only the daytime and evening period is relevant in setting the noise limits. Both measurement positions show clear steady noise levels and from observations and inspection of audio files recorded at P1, the background sound level is dominated by steady plant noise.

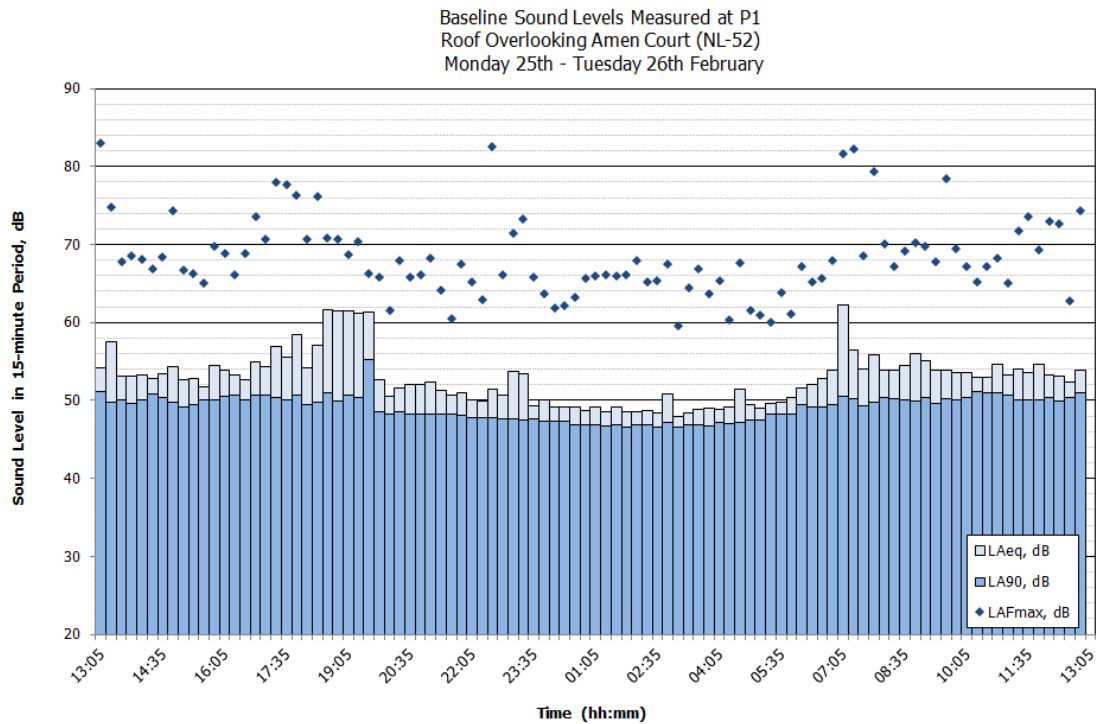


Figure 4– P1 Amen Court Measured noise level data

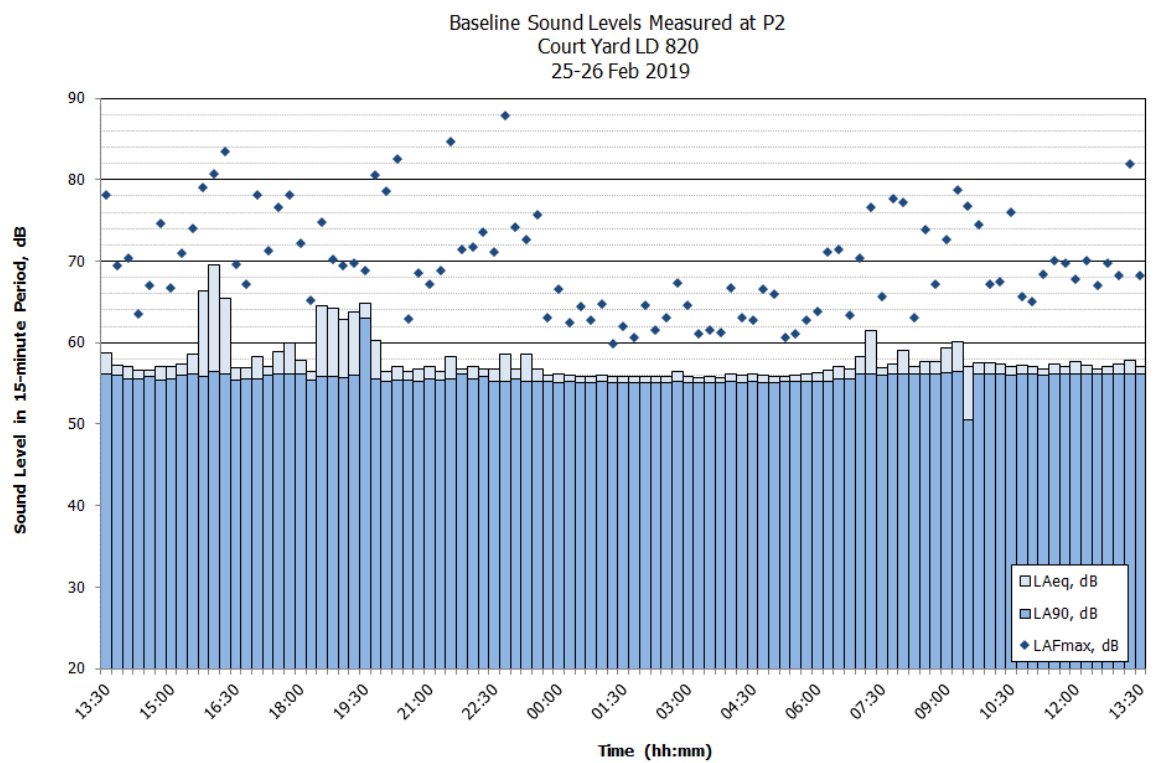


Figure 5– P2 Courtyard Measured noise level data

The graph shows that the background noise levels are relatively steady throughout much of the period. There are localised increases in the L_{Aeq} values. These are thought to be related to short-term activity in the courtyard during from the evening use of the hall for an event.

There is a very short dip in the background noise level at P2 at 09.00 hrs. This is not replicated at P1 during the same period. This may indicate that the plant generating the noise is different at both positions, but from site observations that is unlikely and it may possibly instead be related to some short-term interference with the monitor at P2. However, the remainder of the noise levels at P2 are very consistent and are considered representative.

The L_{A90} cumulative distribution graphs for each are displayed in Figures 6 and 7.

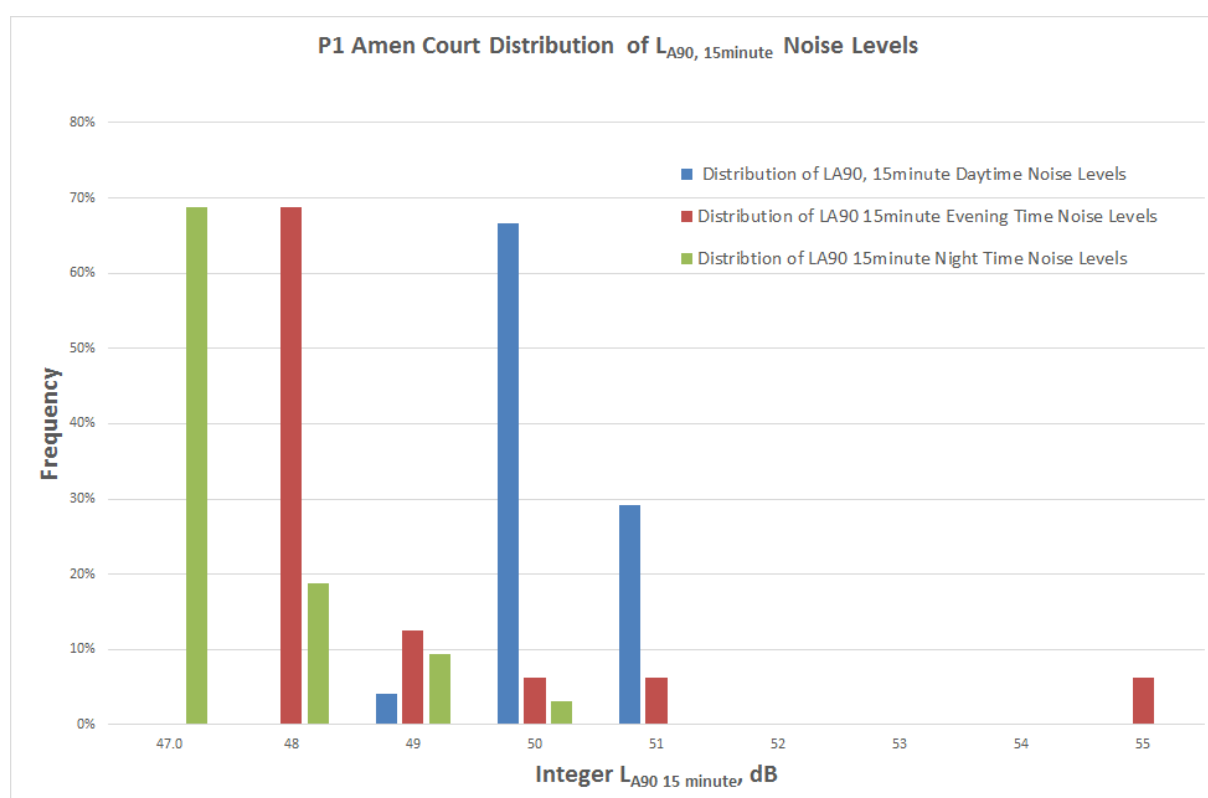


Figure 6: P1 Distribution of L_{A90} values day (blue), evening (red) & night (green)

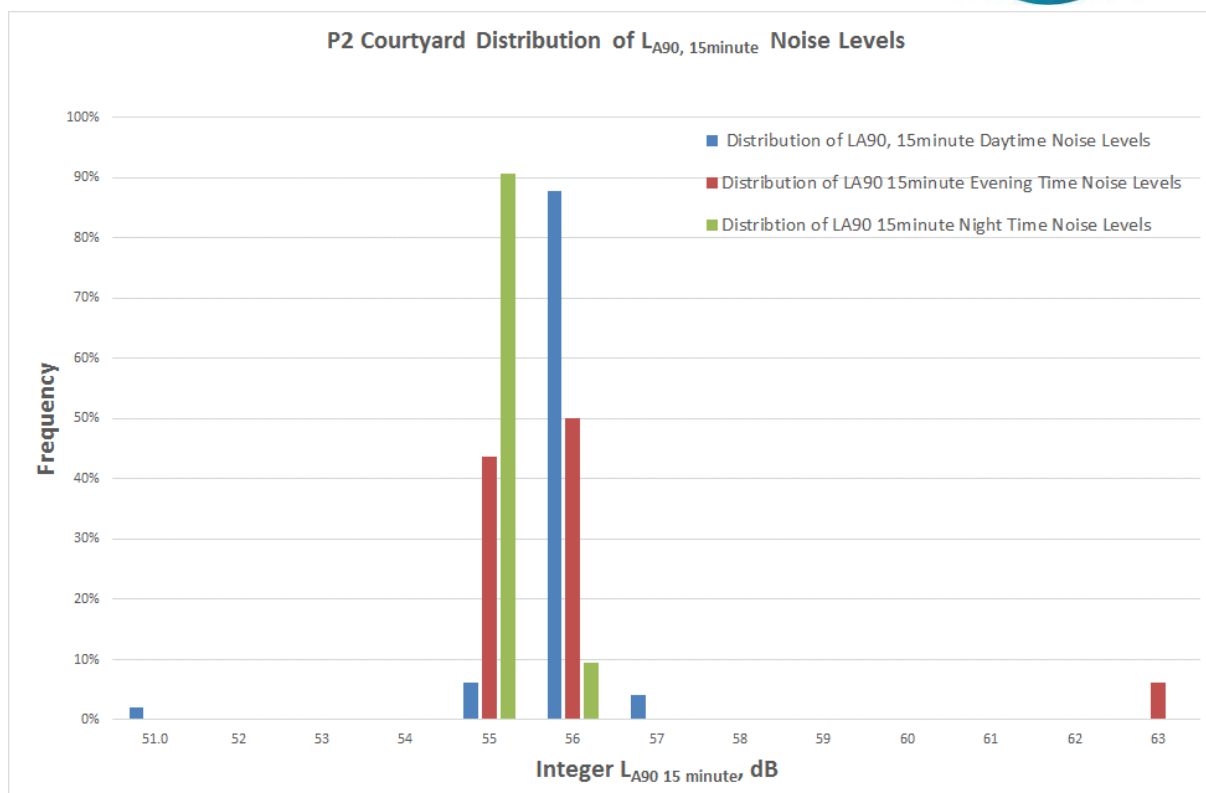


Figure 7: P2 Distribution of L_{A90} values day (blue), evening (red) & night (green)

5.3 Noise Limits

Plant noise limits have been derived with reference to the cumulative frequency distribution graphs above to determine the typical background in accordance with BS4142: 2014 requirement and the Local Authority guidance as discussed above requiring a limit 10dB below the background sound level.

Table 1: Typical Background Noise Levels and Plant Noise Limits

Location		Day	Evening	Night
		07.00-19.00	19.00-23.00	23.00-07.00
Courtyard Flats	L_{A90}	56 dB	55 dB	55 dB
	L_{Ar} noise limit	46 dB	45 dB	45 dB
Amen Court	L_{A90}	50 dB	48 dB	47 dB
	L_{Ar} noise limit	40 dB	38 dB	37 dB

The noise limits are based on free-field measurements and so the level at 1m from the façade would be approximately 3dB higher.

It is noted that the area is already exposed to significant noise from plant. Therefore, the context of the area is that there is already relatively significant noise from other plant and the proposed new plant noise, at 10dB below the background level would not be considered a significant impact on the area and in fact it could be argued that a higher limit should apply given that parity with the background noise is normally considered to represent a low impact according to BS 4142: 2014. However, as the levels are relatively high already, the limit of 10dB below background in

line with local authority guidance is still imposed. It is noted that the limit for evening and overnight is based on the typical level in line with current BS4142:2014 guidance; however that value is also the lowest so also corresponds to the planning condition which sets a limit relative to the lowest value.

5.4 Internal Noise Levels in Card Room

A series of short attended measurements were carried out during the day in a period where there were no other events happening in the building, and little other extraneous activity. The results are given in Table 2.

Table 2: Noise Levels Measured in Card Room

Time	Comments	L _{Aeq}	L _{Amax}	L _{A01}	L _{A90}
		dB	dB	dB	dB
13:10	People in elsewhere in building	40.7	62.9	44.6	34.4
13:15	mainly external plant noise	35.7	50.6	38.3	33.6
13:20	furniture being moved in building	37.8	54.7	41.1	35.0
13:25		38.4	61.6	40.5	33.0
13:30		36.0	51.5	39.3	33.2
13:35	Bell chimes – church	36.3	60.1	39.0	33.3
13:40		35.4	54.5	37.7	33.0

In the absence of activity in the building, noise levels were determined by external sources with the underlying plant from the adjacent office building forming the general background noise level heard primarily through the glazed lantern light. This was L_{A90} 33 dB and, based on the L₉₀ spectrum, NR25-26. The typical ambient noise level was L_{Aeq} 35-36dB.

5.5 Noise of Current Kitchen Fans in Amen Court

A short measurement was made of the existing kitchen fans which were specifically set to run for the purpose in order to determine their noise levels in Amen Court. A level of L_{Aeq} 58/L_{A90} 57dB was measured at 3m from the fan in Amen Court in the direction of the closest windows. Corrected back (12m) to the nearest window gives a level of 45-46 dB from the plant currently. This is lower than that measured from other plant sources, indicating that the current kitchen plant is not the dominant source in the current background noise levels.

6 External Plant Emissions Calculations

6.1 Plant Calculations

Calculations have been prepared to predict noise levels from the proposed plant described in Section 2.2 to the closest residential receptors. Ion Acoustics has carried out predictions of most of the plant noise, but the noise from the Large cooling scheme has been assessed by the acoustic enclosure suppliers and calculations prepared on their behalf by LF acoustics. Specifically, these are the following:

Receptor 1: First floor windows of flats overlooking courtyard

Receptor 2: West windows of housing on north side of Amen Court.

Receptor 3: North windows of The Gallery 32-34 Ludgate Hill overlooking large cooling scheme

Receptor 4: ground floor windows of house on Amen court closest to server condenser

The predictions are given in Appendix B which show the noise data for the plant and the contribution of each plant item. The calculations also show the attenuator assumptions, which are discussed below. The summary levels are given in Table 3. The large cooling scheme predicted level is given for receptor 3, the Gallery flats at the rear of Ludgate Hill. The contribution of the large cooling plant will be insignificant at receptors 2 and 4 in Amen Court as there is a significant distance and good shielding from the existing Stationers' Hall building. The courtyard flats (receptor 1) have no line of sight to the enclosure, but there will be some reflections off the other walls; the noise levels will be lower than those predicted to receptor 1. However, to make a conservative assessment we have assumed that the level from the large cooling plant will be lower than that to receptor 3: specifically, 42dBA. So, for receptors 1 and 3, the rating level given in Table 3 is based on the aggregate of plant from both schemes.

Table 3: Summary Plant Noise Assessment

Receptor Position	Predicted Plant Specific Level Level L_{Ar}	Character correction	Rating Level L_{Ar}	Noise limit	Margin of Compliance
1 Courtyard Flats	33dB (permitted plant) <42dB large cooling plant	0dB	<42dB	Day 46dB Evening 45dB	-4dB -3dB
2 Amen Court upper floor west end	36dB (permitted plant)	0dB	36dB	Day 40dB Evening 38dB	-7dB -2dB
3 rear of 32-34 Ludgate Hill	37dB (permitted plant) 42 dB large cooling plant	0dB	43dB	Day 46dB Evening 45dB	-3dB -2dB
4 house on Amen Court at east end	34dB (permitted plant)	0dB	34dB	Day 40dB Evening 38dB Night 37dB	-6dB -4dB -3dB

The rating level has been calculated assuming no character correction as general fan and condenser noise is normally considered non-tonal and broadband in nature. The plant is likely to run fairly continuously when it is needed without being considered intermittent. It is noted that the noise levels are assessed against the day and evening noise limits for the main plant, but the server plant is also compared with the night limit.

Additionally, it is noted that the new plant noise levels to the houses in Amen Court (36dBA) is around 10dB lower than the current kitchen plant (46dBA) measured. So, this scheme results in a good improvement.

7 Internal Noise Calculations

7.1 Kitchen Fans

The kitchen extract fan will be ducted up internally within the building through the existing builders work risers alongside the chimney constructed of brick work or other masonry. The supply passes up through the north east corner of the card room. The locations of the risers are shown in red in Figure 8.

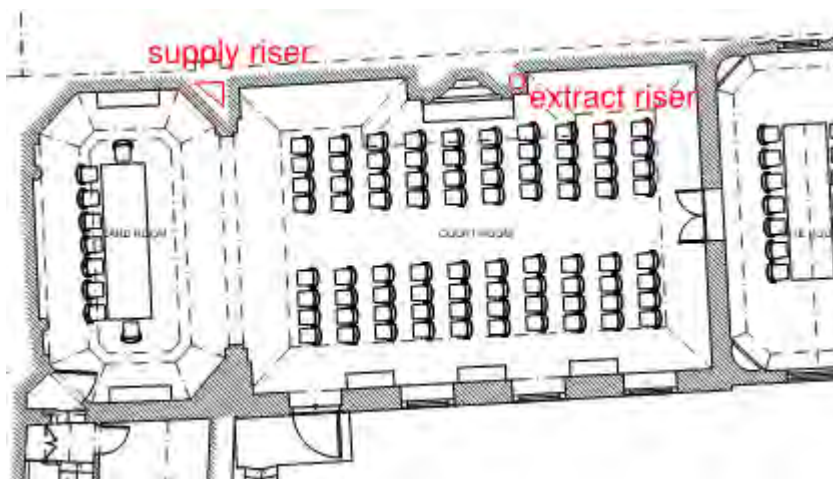


Figure 8: First Floor Court Room and Card Room showing riser approx locations (red)

The builders work risers assumed to be a half single brick width only (i.e. approx 103mm) and are plastered on the room side. An expanded plastic lining will be installed within the riser and this will effectively be bonded to the brickwork. So, the sound insulation to the exterior will be determined by the existing brickwork (sealed with the plastic lining) and there are likely to be limited duct losses up the riser. Therefore, the main losses are assumed to happen in the kitchen area where attenuators are provided.

7.2 Flat Roof Condenser Units

Three condensers will be located on the flat roof above the Card Room and immediately adjacent to the glazed lantern. The lantern is shown in Figure 9 taken from inside the Card Room looking towards the external wall against which the condensers will be installed.



Figure 9: Glazed Lantern seen from inside the Card Room.

There will therefore be a contribution to the noise level in the Card Room from condenser noise transmitted through the glass. A calculation was been prepared to estimate this and as part of the earlier scheme an acoustic enclosure is being provided to these three units to reduce noise in the car room. Importantly, this is to reduce noise levels into the Card Room only and is not required to reduce noise levels to the third-party residential receptors.

8 Noise Control Measures

The scheme has been developed with the following assumptions regarding attenuation in respect of noise to the exterior in respect of planning compliance.

Kitchen Supply and Extract Fans

In each case a reduction is required in noise level to atmosphere side and the design has been developed with the largest attenuators which can be fitted within the space available in the kitchen. This is adequate to meet the noise emissions limits. Furthermore, it is adequate to control **fan noise** breakout via the brickwork riser to each room above. The main outstanding issue in noise generation to other parts of the building would therefore be noise of airflow. This is particularly an issue for extract where very high velocities are expected in the chimney riser. Therefore, it is very important to aim for good airflow and avoid turbulence (e.g., sharp bends, VCDs etc).

The dynamic insertion loss requirements for the proposed attenuators are given in Table 4; these are both taken from supplier's information.

3rd Floor MVHR Unit

The unit is located in the roof void and requires attenuators to the atmosphere side to control noise to the housing on Amen Court. The unit will operate up to 75% duty and the calculations are prepared on that basis. The straightforward approach is to use atmosphere side attenuators, and these need only be small. The requirements for fresh air inlet and the exhaust are given in Table 4. These give typical insertion loss requirements and indicate the likely length which is expected to meet those requirements based on typical generic attenuator data. Specific suppliers would need to confirm the actual attenuator required. An alternative would be to omit the attenuators and provide absorptive lined bends in the duct work which can provide similar reduction in level.

Table 4: Attenuator insertion loss

	Minimum insertion loss (dB) at Octave Centre Bands (Hz)						
	63	125	250	500	1000	2000	4000
kitchen extract VES 630/4 1500mm long	5	10	20	35	42	42	36
kitchen supply manuf attenuator 1000mm long	6	10	18	33	47	47	34
3 rd fl MVHR atmosphere side – typical 600mm	0	1	6	8	9	7	6

Condenser Units

The condenser units meet the noise limits to the housing receptors for planning purposes with no further control. However, if a reduction in noise to the Card Room is required, then there are several options which can be considered discussed in Section 7.2.

Server Room Condenser

The server room condenser is a small unit which we understand will not need to run in full duty. This is located in a small “trench” lightwell by Amen Court. There is no direct line of sight to the nearest windows on Amen Court, but as it is in a canyon, only a small amount of shielding (3dB) is assumed. The noise levels are still predicted to be 3dB within the night limit.

Large Cooling Scheme

This plant has been selected to run at 50% duty which results in lower noise levels. It is also being installed within a bespoke acoustic enclosure which has attenuated louvres to reduce noise emissions. That has been designed by the suppliers based on the proposed plant and the derived noise limits to achieve a level at the affected housing which is lower than the noise limit. The rooms below are non-sensitive back of house accommodation. The location of the enclosure in section is shown in Figure 10.





9 Summary

A noise assessment has been carried out in respect of proposed new plant for Stationers' Hall in London. This has been carried out for a new scheme referred to as the Large cooling scheme which is currently proposed and subject to a new application. The noise levels have been assessed in aggregate with the noise from an already permitted scheme which comprises a new kitchen extract and supply system and six new condenser units for offices and meeting rooms. A baseline noise survey was carried out to determine existing background sound levels in line with BS4142: 2014 and noise limits have been determined in line with local authority standard guidance.

Plant noise emissions calculations to external sensitive residential receptors have been prepared and, with the provision of appropriate attenuation, noise limits can be met. The predicted plant rating level is more than 10dBA below the background sound level, this offers substantially more acoustic protection than the condition which according to BS4142:2104 would provide a "low impact". Furthermore, the kitchen plant is predicted to be quieter than the current kitchen plant at the nearest dwellings on Amen Court.

Therefore, the new scheme is considered to be compliant with local authority guidance and national guidance and would result in insignificant noise impact.

STATIONERS' HALL
External Plant Noise Assessment
Appendix A – Tabulated Noise Survey Data



Sound Levels Measured at P1 (Roof by Amen Court)

Time	L _{Aeq} dB	L _{Amax,F} dB	L _{AF90} dB	Time	L _{Aeq} dB	L _{Amax,F} dB	L _{AF90} dB
25/02/2019 13:05	54.2	83.0	51.1	26/02/2019 01:05	49.1	65.9	46.9
25/02/2019 13:20	57.5	74.8	49.7	26/02/2019 01:20	48.6	66.1	46.7
25/02/2019 13:35	53.1	67.8	50.1	26/02/2019 01:35	49.2	65.9	46.8
25/02/2019 13:50	53.1	68.5	49.6	26/02/2019 01:50	48.5	66.1	46.6
25/02/2019 14:05	53.2	68.1	50.0	26/02/2019 02:05	48.6	67.9	46.8
25/02/2019 14:20	52.8	66.9	50.8	26/02/2019 02:20	48.7	65.2	46.9
25/02/2019 14:35	53.4	68.4	50.3	26/02/2019 02:35	48.4	65.4	46.6
25/02/2019 14:50	54.3	74.4	49.7	26/02/2019 02:50	50.8	67.5	47.1
25/02/2019 15:05	52.6	66.7	49.2	26/02/2019 03:05	48.0	59.5	46.6
25/02/2019 15:20	52.8	66.3	49.5	26/02/2019 03:20	48.4	64.5	46.9
25/02/2019 15:35	51.7	65.1	50.0	26/02/2019 03:35	48.9	66.9	46.9
25/02/2019 15:50	54.4	69.8	50.0	26/02/2019 03:50	49.0	63.7	46.7
25/02/2019 16:05	53.8	68.8	50.5	26/02/2019 04:05	48.8	65.4	47.1
25/02/2019 16:20	53.3	66.1	50.7	26/02/2019 04:20	49.2	60.4	47.0
25/02/2019 16:35	52.6	68.8	50.0	26/02/2019 04:35	51.5	67.6	47.2
25/02/2019 16:50	54.9	73.6	50.6	26/02/2019 04:50	49.4	61.6	47.4
25/02/2019 17:05	54.3	70.6	50.7	26/02/2019 05:05	49.0	60.9	47.4
25/02/2019 17:20	56.9	78.0	50.3	26/02/2019 05:20	49.6	60.0	48.2
25/02/2019 17:35	55.5	77.6	50.1	26/02/2019 05:35	49.7	63.8	48.2
25/02/2019 17:50	58.4	76.3	50.7	26/02/2019 05:50	50.3	61.1	48.3
25/02/2019 18:05	54.1	70.6	49.5	26/02/2019 06:05	51.6	67.2	49.5
25/02/2019 18:20	57.0	76.1	49.7	26/02/2019 06:20	52.0	65.2	49.1
25/02/2019 18:35	61.6	70.8	50.9	26/02/2019 06:35	52.8	65.7	49.1
25/02/2019 18:50	61.5	70.6	49.9	26/02/2019 06:50	53.9	67.9	49.4
25/02/2019 19:05	61.4	68.7	50.6	26/02/2019 07:05	62.2	81.6	50.5
25/02/2019 19:20	61.1	70.4	50.4	26/02/2019 07:20	56.5	82.2	50.2
25/02/2019 19:35	61.3	66.3	55.3	26/02/2019 07:35	54.0	68.5	49.3
25/02/2019 19:50	52.7	65.8	48.6	26/02/2019 07:50	55.9	79.3	49.8
25/02/2019 20:05	50.5	61.5	48.2	26/02/2019 08:05	53.8	70.1	50.4
25/02/2019 20:20	51.6	67.9	48.5	26/02/2019 08:20	53.8	67.2	50.2
25/02/2019 20:35	52.0	65.8	48.3	26/02/2019 08:35	54.5	69.2	50.1
25/02/2019 20:50	52.1	66.1	48.3	26/02/2019 08:50	56.0	70.2	49.9
25/02/2019 21:05	52.3	68.2	48.2	26/02/2019 09:05	55.1	69.7	50.3
25/02/2019 21:20	51.2	64.2	48.2	26/02/2019 09:20	53.8	67.8	49.6
25/02/2019 21:35	50.7	60.5	48.3	26/02/2019 09:35	53.8	78.4	50.2
25/02/2019 21:50	50.9	67.5	48.1	26/02/2019 09:50	53.5	69.4	50.1
25/02/2019 22:05	50.1	65.2	47.7	26/02/2019 10:05	53.6	67.1	50.4
25/02/2019 22:20	49.9	62.9	47.8	26/02/2019 10:20	53.0	65.2	51.1
25/02/2019 22:35	51.4	82.6	47.8	26/02/2019 10:35	52.9	67.2	51.0
25/02/2019 22:50	50.7	66.1	47.6	26/02/2019 10:50	54.6	68.2	51.0
25/02/2019 23:05	53.7	71.4	47.6	26/02/2019 11:05	53.3	65.0	50.7
25/02/2019 23:20	53.4	73.2	47.5	26/02/2019 11:20	54.0	71.8	50.1
25/02/2019 23:35	49.3	65.8	47.6	26/02/2019 11:35	53.5	73.6	50.1
25/02/2019 23:50	50.1	63.7	47.3	26/02/2019 11:50	54.6	69.3	50.1
26/02/2019 00:05	49.1	61.9	47.3	26/02/2019 12:05	53.2	72.9	50.4
26/02/2019 00:20	49.1	62.2	47.3	26/02/2019 12:20	53.1	72.6	49.9
26/02/2019 00:35	49.2	63.2	46.8	26/02/2019 12:35	52.3	62.8	50.4
26/02/2019 00:50	48.7	65.6	46.9	26/02/2019 12:50	53.9	74.3	50.9

STATIONERS' HALL
External Plant Noise Assessment
Appendix A – Tabulated Noise Survey Data



Sound Levels Measured at P2 (Courtyard)

Time	L _{Aeq} dB	L _{Amax,F} dB	L _{AF90} dB	Time	L _{Aeq} dB	L _{Amax,F} dB	L _{AF90} dB
25/02/2019 13:30	58.8	78.1	56.2	26/02/2019 01:30	55.9	62.0	55.1
25/02/2019 13:45	57.2	69.5	56.0	26/02/2019 01:45	55.8	60.7	55.1
25/02/2019 14:00	57.0	70.4	55.6	26/02/2019 02:00	55.8	64.6	55.1
25/02/2019 14:15	56.6	63.5	55.5	26/02/2019 02:15	55.8	61.5	55.1
25/02/2019 14:30	56.6	67.0	55.8	26/02/2019 02:30	55.8	63.1	55.1
25/02/2019 14:45	57.1	74.6	55.4	26/02/2019 02:45	56.4	67.3	55.2
25/02/2019 15:00	57.1	66.7	55.6	26/02/2019 03:00	55.9	64.6	55.1
25/02/2019 15:15	57.4	71.0	56.0	26/02/2019 03:15	55.7	61.1	55.1
25/02/2019 15:30	58.6	74.0	56.1	26/02/2019 03:30	55.8	61.6	55.1
25/02/2019 15:45	66.3	79.0	55.9	26/02/2019 03:45	55.7	61.2	55.1
25/02/2019 16:00	69.6	80.7	56.5	26/02/2019 04:00	56.1	66.7	55.2
25/02/2019 16:15	65.4	83.4	56.1	26/02/2019 04:15	56.0	63.0	55.1
25/02/2019 16:30	56.9	69.6	55.4	26/02/2019 04:30	56.1	62.8	55.2
25/02/2019 16:45	56.9	67.2	55.5	26/02/2019 04:45	56.0	66.5	55.1
25/02/2019 17:00	58.3	78.2	55.6	26/02/2019 05:00	55.9	65.9	55.1
25/02/2019 17:15	57.1	71.3	56.0	26/02/2019 05:15	55.9	60.7	55.2
25/02/2019 17:30	58.9	76.6	56.1	26/02/2019 05:30	56.0	61.1	55.2
25/02/2019 17:45	59.9	78.1	56.1	26/02/2019 05:45	56.1	62.8	55.3
25/02/2019 18:00	57.8	72.2	56.1	26/02/2019 06:00	56.3	63.8	55.3
25/02/2019 18:15	56.5	65.2	55.4	26/02/2019 06:15	56.6	71.1	55.3
25/02/2019 18:30	64.5	74.8	55.8	26/02/2019 06:30	57.1	71.4	55.6
25/02/2019 18:45	64.2	70.2	55.8	26/02/2019 06:45	56.7	63.4	55.6
25/02/2019 19:00	62.9	69.5	55.7	26/02/2019 07:00	58.3	70.4	56.1
25/02/2019 19:15	63.7	69.7	56.0	26/02/2019 07:15	61.4	76.6	56.2
25/02/2019 19:30	64.8	68.9	63.0	26/02/2019 07:30	56.9	65.7	56.0
25/02/2019 19:45	60.2	80.5	55.5	26/02/2019 07:45	57.3	77.7	56.1
25/02/2019 20:00	56.5	78.6	55.2	26/02/2019 08:00	59.1	77.2	56.2
25/02/2019 20:15	57.1	82.5	55.4	26/02/2019 08:15	57.1	63.1	56.1
25/02/2019 20:30	56.4	62.9	55.4	26/02/2019 08:30	57.6	73.9	56.2
25/02/2019 20:45	56.7	68.6	55.3	26/02/2019 08:45	57.6	67.1	56.2
25/02/2019 21:00	57.1	67.2	55.5	26/02/2019 09:00	59.4	72.7	56.3
25/02/2019 21:15	56.5	68.9	55.4	26/02/2019 09:15	60.1	78.8	56.5
25/02/2019 21:30	58.2	84.6	55.5	26/02/2019 09:30	57.1	76.8	50.5
25/02/2019 21:45	56.8	71.4	56.1	26/02/2019 09:45	57.5	74.5	56.2
25/02/2019 22:00	57.1	71.8	55.6	26/02/2019 10:00	57.5	67.1	56.1
25/02/2019 22:15	56.7	73.5	55.8	26/02/2019 10:15	57.3	67.5	56.1
25/02/2019 22:30	56.7	71.1	55.3	26/02/2019 10:30	57.0	76.0	56.0
25/02/2019 22:45	58.6	87.9	55.3	26/02/2019 10:45	57.2	65.6	56.1
25/02/2019 23:00	56.7	74.1	55.5	26/02/2019 11:00	57.0	65.1	56.1
25/02/2019 23:15	58.6	72.7	55.2	26/02/2019 11:15	56.7	68.4	56.0
25/02/2019 23:30	56.7	75.7	55.2	26/02/2019 11:30	57.4	70.1	56.1
25/02/2019 23:45	56.0	63.1	55.2	26/02/2019 11:45	57.0	69.7	56.1
26/02/2019 00:00	56.2	66.6	55.1	26/02/2019 12:00	57.6	67.8	56.2
26/02/2019 00:15	56.0	62.4	55.2	26/02/2019 12:15	57.2	70.0	56.1
26/02/2019 00:30	55.9	64.5	55.1	26/02/2019 12:30	56.8	67.0	56.1
26/02/2019 00:45	55.9	62.7	55.1	26/02/2019 12:45	57.0	69.7	56.1
26/02/2019 01:00	56.0	64.7	55.2	26/02/2019 13:00	57.3	68.2	56.1
26/02/2019 01:15	55.8	59.8	55.1	26/02/2019 13:15	57.8	82.0	56.1

STATIONERS' HALL

External Plant Noise Assessment

Appendix B – Plant Noise Calculations



Calculation to R1 Flats overlooking Courtyard

8th January 2020		Octave Band Centre Frequency, Hz							cool heating	
Stationers' Hall - New Plant		63	125	250	500	1000	2000	4000	dBA	
Rec 1: To Flats overlooking courtyard									limit	45
									total	33.2
extract fan - court room chimney		11.9	20.4	17.4	1.9	-21.6	-25.6	-25.1	10.5	10.5
supply fan - card room riser		11.9	15.4	3.9	-12.6	-42.1	-45.1	-33.1	1.0	1.0
Area 3 - 2nd floor Flat Roof (meeting rm x 2)									11.5	17.5
Area 2 - 2nd floor Flat Roof - ante room									1.5	14.5
Area 1 - Above Alley - offices									24.1	33.0
Kitchen										
Extract Fan - SWL		Duct Rising up through court room by chimney								
in duct extract outlet, w A wtd		81.0	85.0	89.0	88.0	84.0	80.0	76.0	a wtd	
attenuator 630/4: 1500mm		5.0	10.0	20.0	35.0	42.0	42.0	36.0		
plenum, 0.31m ² , 1.5m, 45°, 1.8x1.4x0.4m		0.024	0.024	0.024	1.021	1.021	1.021	2.538		
end reflection, 560mm, 560mm		7	3	1	0	0	0	0		
rectangular duct, 5m, 560mm, 560mm (riser)		3.0	1.5	1.5	1.0	1.0	1.0	1.0		
end reflection, 560mm, 560mm		7.0	3.0	1.0	0.0	0.0	0.0	0.0		
Lw		59.0	67.5	65.5	51.0	40.0	36.0	36.5		
Atmosphere distance 30.0m		40.5	40.5	40.5	40.5	40.5	40.5	40.5		
directivity: 90°, 30°, 800mm, 800mm		3.5	3.5	2.5	1.5	-11.0	-11.0	-11.0		
Lp		21.9	30.4	27.4	11.9	-11.6	-15.6	-15.1	20.5	dB(A)
shielding 10		Lp with shielding	11.9	20.4	17.4	1.9	-21.6	-25.6	-25.1	10.5
Kitchen										
supply Fan SWL		74	79	82	79	74	71	70		
1000mm attenuator		6	10	18	33	47	47	34		
radius bend, 1400mm		0	1	2	3	3	3	3		
mitred bend, 700mm		0	2	8	5	3	3	3		
riser - triangular duct										
rectangular duct, 5m, 850mm, 850mm		3	1.5	1	0.5	0.5	0.5	0.5		
end reflection, 750mm, 750mm		5.0	1.0	0.0	0.0	0.0	0.0	0.0		
Lw		60.0	63.5	53.0	37.5	20.5	17.5	29.5		
Atmosphere distance 34.0m		41.6	41.6	41.6	41.6	41.6	41.6	41.6		
directivity: 90°, 30°, 800mm, 800mm		3.5	3.5	2.5	1.5	-11.0	-11.0	-11.0	dbadd	
Lp		21.9	25.4	13.9	-2.6	-32.1	-35.1	-23.1	11.0	dB(A)
shielding 10		Lp with shielding	11.9	15.4	3.9	-12.6	-42.1	-45.1	-33.1	1.0
Area 3 - 2nd floor Flat Roof (meeting rm x 2)										
Lp = Lpref - 20 log r + reflections - shielding + directivity		PUMY SP112YKM (x 2)								
cooling SPL at 1m		57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0	
r 30 m		29.5	29.5	29.5	29.5	29.5	29.5	29.5		
reflections 3 dB		3.0	3.0	3.0	3.0	3.0	3.0	3.0		
shielding 10		10.0	10.0	10.0	10.0	10.0	10.0	10.0		
directivity -3 (to side)		-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0		
number of units 2		3.0	3.0	3.0	3.0	3.0	3.0	3.0		
percentage step down 80% value -4										
Lp		21.0	18.5	15.5	13.0	11.0	6.5	-0.5	15.5	dB(A)
Lp with step down									11.5	
Heating: full duty		57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0	
difference heating to cooling		0.0	0.0	2.5	2.5	1.5	2.0	2.0		
Lp heating		21.0	18.5	18.0	15.5	12.5	8.5	1.5	17.5	dB(A)
Area 2 - 2nd floor Flat Roof - ante room										
cooling SPL at 1m		57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0	
r 30 m		29.5	29.5	29.5	29.5	29.5	29.5	29.5		
reflections 3 dB		3.0	3.0	3.0	3.0	3.0	3.0	3.0		
shielding 10		10.0	10.0	10.0	10.0	10.0	10.0	10.0		
directivity -3 (to side)		-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0		
number of units 1		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
percentage step down 60% value -11										
Lp		18.0	15.5	12.5	10.0	8.0	3.5	-3.5	12.5	dB(A)
Lp with step down									1.5	
Heating: full duty		57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0	
difference heating to cooling		0.0	0.0	2.5	2.5	1.5	2.0	2.0		
Lp heating		18.0	15.5	15.0	12.5	9.5	5.5	-1.5	14.5	dB(A)
Area 1 - Above Alley - offices										
cooling SPL at 1m		57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0	
r 10 m		20.0	20.0	20.0	20.0	20.0	20.0	20.0		
reflections 6 dB		6.0	6.0	6.0	6.0	6.0	6.0	6.0		
shielding 10		10.0	10.0	10.0	10.0	10.0	10.0	10.0		
directivity 0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
number of units 2		3.0	3.0	3.0	3.0	3.0	3.0	3.0		
percentage step down 70% value -7										
Lp		36.5	34.0	31.0	28.5	26.5	22.0	15.0	31.1	dB(A)
Lp with step down									24.1	
Heating: full duty		57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0	
difference heating to cooling		0.0	0.0	2.5	2.5	1.5	2.0	2.0		
Lp heating		36.5	34.0	33.5	31.0	28.0	24.0	17.0	33.0	dB(A)
3rd flr MVHR										
Fresh Air Inlet		Lw 75%	71.0	65.0	63.0	65.0	60.0	56.0	48.0	
rectangular duct, 2.5m, 400mm, 400mm			1.5	0.8	0.8	0.5	0.5	0.5	0.5	
generic attenuator, 600mm, 50% free area			0.0	1.0	6.0	8.0	9.0	7.0	6.0	
mitred bend, 400mm			0.0	0.0	5.0	8.0	4.0	3.0	3.0	
end reflection, 400mm, 400mm			9.0	5.0	1.0	0.0	0.0	0.0	0.0	
Lw			60.5	58.3	50.3	48.5	46.5	45.5	38.5	
Atmosphere distance 28.0m			39.9	39.9	39.9	39.9	39.9	39.9	39.9	
directivity: 0°, 45°, 500mm, 500mm			3.5	4.5	5.0	6.0	6.5	7.5	7.5	
Lp			24.1	22.8	15.3	14.6	13.1	13.1	6.1	18.7 dB(A)
discharge air										
Lw 75%			77.0	78.0	72.0	75.0	66.0	66.0	64.0	
rectangular duct, 3m, 450mm, 450mm			1.8	0.9	0.9	0.6	0.6	0.6	0.6	
generic attenuator, 600mm, 50% free area			0.0	1.0	6.0	8.0	9.0	7.0	6.0	
mitred bend, 450mm			0.0	0.0	5.0	8.0	4.0	3.0	3.0	
mitred bend, 450mm			0.0	0.0	5.0	8.0	4.0	3.0	3.0	
end reflection, 450mm, 450mm			8.0	4.0	1.0	0.0	0.0	0.0	0.0	
Lw			67.2	72.1	54.1	50.4	48.4	52.4	51.4	
Atmosphere distance 28.0m			39.9	39.9	39.9	39.9	39.9	39.9	39.9	
directivity: 0°, 45°, 500mm, 500mm			3.5	4.5	5.0	6.0	6.5	7.5	7.5	
Lp			30.8	36.7	19.2	16.5	15.0	20.0	19.0	25.7 dB(A)

STATIONERS' HALL

External Plant Noise Assessment

Appendix B – Plant Noise Calculations



Calculation to R2 Housing Amen Court

8th January 2020		Octave Band Centre Frequency, Hz							cool	heat
Stationers' Hall - New Plant		63	125	250	500	1000	2000	4000	dBA	
Rec 2: To Houses on Amen Court									limit	
									total	
extract fan - court room chimney		20.3	28.8	25.8	10.3	-13.2	-17.2	-16.8	18.8	18.8
supply fan - card room riser		16.8	20.3	8.8	-7.7	-37.2	-40.2	-28.2	5.9	5.9
Area 3 - 2nd floor Flat Roof (meeting rm x 2)									16.0	21.9
Area 2 - 2nd floor Flat Roof - ante room									6.0	18.9
Area 1 - Vault Above Alley offices									8.0	16.9
3rd fl mvhr inlet		31.8	30.5	23.0	22.3	20.8	20.8	13.8	26.4	26.4
3rd fl mvhr outlet		36.5	42.4	29.9	30.2	24.7	28.7	27.7	34.4	34.4
Kitchen										
Extract Fan - SWL										
in duct extract outlet w A wtd		81.0	85.0	89.0	88.0	84.0	80.0	76.0	a wtd	
Attenuator 630/4: 1500mm		5.0	10.0	20.0	35.0	42.0	42.0	36.0		
plenum, 0.31m², 1.5m, 45°, 1.8x1.4x0.4m		0.024	0.024	0.024	1.021	1.021	1.021	2.538		
end reflection, 560mm, 560mm		7	3	1	0	0	0	0		
rectangular duct, 5m, 560mm, 560mm (riser)		3.0	1.5	1.5	1.0	1.0	1.0	1.0		
end reflection, 560mm, 560mm		7.0	3.0	1.0	0.0	0.0	0.0	0.0		
Lw		59.0	67.5	65.5	51.0	40.0	36.0	36.5		
Atmosphere										
distance 11.5m		32.2	32.2	32.2	32.2	32.2	32.2	32.2		
directivity : 90°, 30°, 800mm, 800mm		3.5	3.5	2.5	1.5	-11.0	-11.0	-11.0		
Lp		30.3	38.8	35.8	20.3	-3.2	-7.2	-6.8	28.8	dB(A)
shielding 10		Lp with shielding	20.3	28.8	25.8	10.3	-13.2	-17.2	-16.8	18.8
Kitchen										
supply Fan SWL		74	79	82	79	74	71	70		
1000mm attenuator		6	10	18	33	47	47	34		
radiused bend, 1400mm		0	1	2	3	3	3	3		
mitred bend, 700mm		0	2	8	5	3	3	3		
riser - triangular duct										
rectangular duct, 5m, 850mm, 850mm		3	1.5	1	0.5	0.5	0.5	0.5		
end reflection, 750mm, 750mm		5.0	1.0	0.0	0.0	0.0	0.0	0.0		
Lw		60.0	63.5	53.0	37.5	20.5	17.5	29.5		
Atmosphere										
distance 19.3m		36.7	36.7	36.7	36.7	36.7	36.7	36.7		
directivity : 90°, 30°, 800mm, 800mm		3.5	3.5	2.5	1.5	-11.0	-11.0	-11.0	dbadd	
Lp		26.8	30.3	18.8	2.3	-27.2	-30.2	-18.2	15.9	dB(A)
shielding 10		Lp with shielding	16.8	20.3	8.8	-7.7	-37.2	-40.2	-28.2	5.9
Lp = Lpref - 20 log r + reflections - shielding + directivity										
Area 3 - 2nd floor Flat Roof (meeting rm)		PUMY SP112YKM (x 2)								
cooling		SPL at 1m	57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0
r		18 m	25.1	25.1	25.1	25.1	25.1	25.1	25.1	
reflections		3 dB	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
shielding		10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
directivity		-3 (to side)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
number of units		2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
percentage step down		80% value	-4							
Lp			25.4	22.9	19.9	17.4	15.4	10.9	3.9	20.0
Lp with step down										16.0
Heating: full duty			57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0
difference heating to cooling			0.0	0.0	2.5	2.5	1.5	2.0	2.0	
Lp heating			25.4	22.9	22.4	19.9	16.9	12.9	5.9	21.9
Area 2 - 2nd floor Flat Roof - ante room		PUMY SP112YKM (x 1)								
cooling		SPL at 1m	57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0
r		18 m	25.1	25.1	25.1	25.1	25.1	25.1	25.1	
reflections		3 dB	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
shielding		10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
directivity		-3 (to side)	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	
number of units		1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
percentage step down		60% value	-11							
Lp			22.4	19.9	16.9	14.4	12.4	7.9	0.9	17.0
Lp with step down										6.0
Heating: full duty			57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0
difference heating to cooling			0.0	0.0	2.5	2.5	1.5	2.0	2.0	
Lp heating			22.4	19.9	19.4	16.9	13.9	9.9	2.9	18.9
Area 1 - Vault Above Alley offices		PUMY SP112YKM (x 2)								
cooling		SPL at 1m	57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0
r		36 m	31.1	31.1	31.1	31.1	31.1	31.1	31.1	
reflections		3 dB	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
shielding		12	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
directivity		0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
number of units		2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
percentage step down		70% value	-7							
Lp			20.4	17.9	14.9	12.4	10.4	5.9	-1.1	15.0
Lp with step down										8.0
Heating: full duty			57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0
difference heating to cooling			0.0	0.0	2.5	2.5	1.5	2.0	2.0	
Lp heating			20.4	17.9	17.4	14.9	11.9	7.9	0.9	16.9
3rd flr MVHR										
Fresh Air Inlet		Lw 75%	71.0	65.0	63.0	65.0	60.0	56.0	48.0	
rectangular duct, 2.5m, 400mm, 400mm			1.5	0.8	0.8	0.5	0.5	0.5	0.5	
generic attenuator, 600mm, 50% free area			0.0	1.0	6.0	8.0	9.0	7.0	6.0	
mitred bend, 400mm			0.0	0.0	5.0	8.0	4.0	3.0	3.0	
end reflection, 400mm, 400mm			9.0	5.0	1.0	0.0	0.0	0.0	0.0	
Lw			60.5	58.3	50.3	48.5	46.5	45.5	38.5	
Atmosphere										
distance 11.5m			32.2	32.2	32.2	32.2	32.2	32.2		
directivity : 0°, 45°, 500mm, 500mm			3.5	4.5	5.0	6.0	6.5	7.5	7.5	
Lp			31.8	30.5	23.0	22.3	20.8	20.8	13.8	26.4
discharge air		Lw 75%	77.0	78.0	72.0	75.0	66.0	66.0	64.0	
rectangular duct, 3m, 450mm, 450mm			1.8	0.9	0.9	0.6	0.6	0.6	0.6	
generic attenuator, 600mm, 50% free area			0.0	1.0	6.0	8.0	9.0	7.0	6.0	
mitred bend, 450mm			0.0	0.0	5.0	8.0	4.0	3.0	3.0	
end reflection, 450mm, 450mm			8.0	4.0	1.0	0.0	0.0	0.0	0.0	
Lw			67.2	72.1	59.1	58.4	52.4	55.4	54.4	
Atmosphere										
distance 14.5m			34.2	34.2	34.2	34.2	34.2	34.2	34.2	
directivity : 0°, 45°, 500mm, 500mm			3.5	4.5	5.0	6.0	6.5	7.5	7.5	
Lp			36.5	42.4	29.9	30.2	24.7	28.7	27.7	34.4

STATIONERS' HALL

External Plant Noise Assessment

Appendix B – Plant Noise Calculations



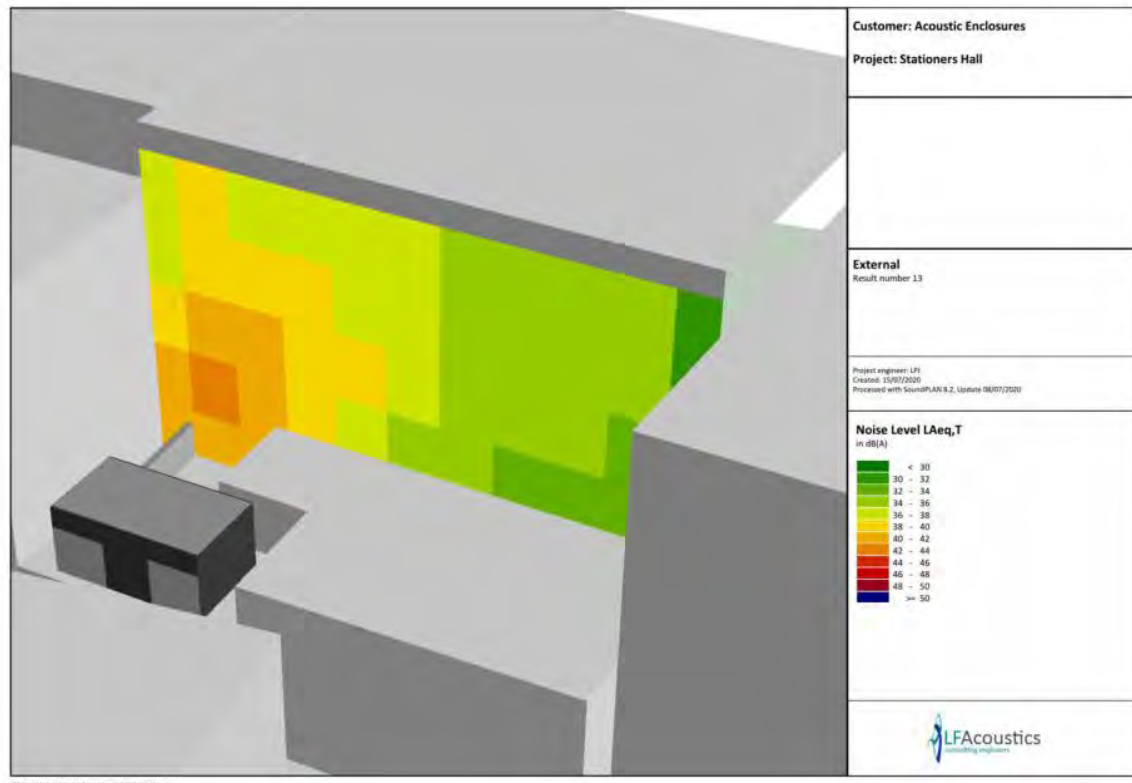
Calculation to R3 rear of upper floors of 32-34 Ludgate Hill

7th January 2020		Octave Band Centre Frequency, Hz								cool	heat
Stationers' Hall - New Plant		63	125	250	500	1000	2000	4000		dBA	
Rec 2: To Flats overlooking courtyard									limit	45.0	45.0
									total	29.9	36.6
extract fan - court room chimney		8.6	17.1	14.1	-1.4	-24.9	-28.9	-28.4		7.1	7.1
supply fan - card room riser		9.6	13.1	1.6	-14.9	-44.4	-47.4	-35.4		-1.3	-1.3
Area 3 - 2nd floor Flat Roof (meeting rm x 2)										8.6	14.6
Area 2 - 2nd floor Flat Roof - ante room										-1.4	11.6
Area 1 - Vault Above Alley offices										27.2	36.1
3rd fl mvhr inlet		21.4	21.2	18.7	19.9	19.4	17.4	9.4		23.6	23.6
3rd fl mvhr outlet		28.1	34.0	16.5	13.8	12.3	17.3	16.3		23.1	23.1
Kitchen											
Extract Fan - SWL		Duct Rising up through court room by chimney									
in duct extract outlet, w A wtd		81.0	85.0	89.0	88.0	84.0	80.0	76.0	a wtd		
attenuator 630/4: 1500mm		5.0	10.0	20.0	35.0	42.0	42.0	36.0			
plenum, 0.31m², 1.5m, 45°, 1.8x1.4x0.4m		0.024	0.024	0.024	1.021	1.021	1.021	2.538			
end reflection, 560mm, 560mm		7	3	1	0	0	0	0			
rectangular duct, 5m, 560mm, 560mm (riser)		3.0	1.5	1.5	1.0	1.0	1.0	1.0			
end reflection, 560mm, 560mm		7.0	3.0	1.0	0.0	0.0	0.0	0.0			
Atmosphere		Lw	59.0	67.5	65.5	51.0	40.0	36.0			
distance 44.0m			43.9	43.9	43.9	43.9	43.9	43.9			
directivity: 90°, 30°, 800mm, 800mm			3.5	3.5	2.5	1.5	-11.0	-11.0			
Lp			18.6	27.1	24.1	8.6	-14.9	-18.9		17.1	dB(A)
shielding 10		Lp with shielding	8.6	17.1	14.1	-1.4	-24.9	-28.9		7.1	
Kitchen											
supply Fan SWL		74	79	82	79	74	71	70			
1000mm attenuator		6	10	18	33	47	47	34			
radius bend, 1400mm		0	1	2	3	3	3	3			
mitred bend, 700mm		0	2	8	5	3	3	3			
riser - triangular duct											
rectangular duct, 5m, 850mm, 850mm		3	1.5	1	0.5	0.5	0.5	0.5			
end reflection, 750mm, 750mm		5.0	1.0	0.0	0.0	0.0	0.0	0.0			
Lw			60.0	63.5	53.0	37.5	20.5	17.5		29.5	
Atmosphere			43.9	43.9	43.9	43.9	43.9	43.9			
distance 44.0m			3.5	3.5	2.5	1.5	-11.0	-11.0		dbadd	
directivity: 90°, 30°, 800mm, 800mm			19.6	23.1	11.6	-4.9	-34.4	-37.4		8.7	dB(A)
Lp			9.6	13.1	1.6	-14.9	-44.4	-47.4		-1.3	
shielding 10		Lp with shielding									
Area 3 - 2nd floor Flat Roof (meeting rm)											
PUMY SP112YKM (x 2)											
cooling SPL at 1m		57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0		
r 42 m		32.5	32.5	32.5	32.5	32.5	32.5	32.5			
reflections 3 dB		3.0	3.0	3.0	3.0	3.0	3.0	3.0			
shielding 10		10.0	10.0	10.0	10.0	10.0	10.0	10.0			
directivity -3 (to side)		-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0			
number of unit: 2		3.0	3.0	3.0	3.0	3.0	3.0	3.0			
percentage step down 80% value		-4									
Lp			18.0	15.5	12.5	10.0	8.0	3.5		-3.5	12.6 dB(A)
Lp with step down										8.6	
Heating: full duty		57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0		
difference heating to cooling		0.0	0.0	2.5	2.5	1.5	2.0	2.0			
Lp heating			18.0	15.5	15.0	12.5	9.5	5.5		-1.5	14.6 dBA
Area 2 - 2nd floor Flat Roof - ante room											
PUMY SP112YKM (x 1)											
cooling SPL at 1m		57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0		
r 42 m		32.5	32.5	32.5	32.5	32.5	32.5	32.5			
reflections 3 dB		3.0	3.0	3.0	3.0	3.0	3.0	3.0			
shielding 10		10.0	10.0	10.0	10.0	10.0	10.0	10.0			
directivity -3 (to side)		-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0			
number of unit: 1		0.0	0.0	0.0	0.0	0.0	0.0	0.0			
percentage step down 60% value		-11									
Lp			15.0	12.5	9.5	7.0	5.0	0.5		-6.5	9.6 dB(A)
Lp with step down										-1.4	
Heating: full duty		57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0		
difference heating to cooling		0.0	0.0	2.5	2.5	1.5	2.0	2.0			
Lp heating			15.0	12.5	12.0	9.5	6.5	2.5		-4.5	11.6 dBA
Area 1 - Vault Above Alley offices											
PUMY SP112YKM (x 2)											
cooling SPL at 1m		57.5	55.0	52.0	49.5	47.5	43.0	36.0	52.0		
r 7 m		16.9	16.9	16.9	16.9	16.9	16.9	16.9			
reflections 6 dB		6.0	6.0	6.0	6.0	6.0	6.0	6.0			
shielding 10		10.0	10.0	10.0	10.0	10.0	10.0	10.0			
directivity 0		0.0	0.0	0.0	0.0	0.0	0.0	0.0			
number of unit: 2		3.0	3.0	3.0	3.0	3.0	3.0	3.0			
percentage step down 70% value		-7									
Lp			39.6	37.1	34.1	31.6	29.6	25.1		18.1	34.2 dB(A)
Lp with step down										27.2	
Heating: full duty		57.5	55.0	54.5	52.0	49.0	45.0	38.0	54.0		
difference heating to cooling		0.0	0.0	2.5	2.5	1.5	2.0	2.0			
Lp heating			39.6	37.1	36.6	34.1	31.1	27.1		20.1	36.1 dBA
3rd flr MVHR											
Fresh Air Inlet		Lw 75%	71.0	65.0	63.0	65.0	60.0	56.0	48.0		
rectangular duct, 2.5m, 400mm, 400mm			1.5	0.8	0.8	0.5	0.5	0.5			
mitred bend, 400mm			0.0	0.0	5.0	8.0	4.0	3.0		3.0	
end reflection, 400mm, 400mm			9.0	5.0	1.0	0.0	0.0	0.0		0.0	
Lw			60.5	59.3	56.3	56.5	55.5	52.5		44.5	
Atmosphere			42.6	42.6	42.6	42.6	42.6	42.6			
distance 38.0m			3.5	4.5	5.0	6.0	6.5	7.5		7.5	
directivity: 0°, 45°, 500mm, 500mm			21.4	21.2	18.7	19.9	19.4	9.4		23.6	dB(A)
Lp											
discharge air											
rectangular duct, 3m, 450mm, 450mm		Lw 75%	77.0	78.0	72.0	75.0	66.0	66.0	64.0		
generic attenuator, 600mm, 50% free area			1.8	0.9	0.9	0.6	0.6	0.6		0.6	
mitred bend, 450mm			0	1	6	8	9	7		6	
end reflection, 450mm			0.0	0.0	5.0	8.0	4.0	3.0		3.0	
Lw			67.2	72.1	54.1	50.4	48.4	52.4		51.4	
Atmosphere			42.6	42.6	42.6	42.6	42.6	42.6			
distance 38.0m			3.5	4.5	5.0	6.0	6.5	7.5		7.5	
directivity: 0°, 45°, 500mm, 500mm			28.1	34.0	16.5	13.8	12.3	17.3		16.3	23.1 dB(A)
Lp											

STATIONERS' HALL
External Plant Noise Assessment
Appendix B – Plant Noise Calculations



LFAcoustics predictions of plant enclosure to rear windows of flats at The Gallery.



Stationers Hall													10
Mean propagation Leq - External													
Source	Source type	Lw	Lw	l or A	S	Adiv	Agr	Abar	Aatm	dLrefl	Ls	dLw	Lr
		dB(A)	dB(A)	m,m²	m	dB	dB	dB	dB	dB	dB(A)	dB	dB(A)
Receiver	F1 F1	Lr24hr,lim	dB(A)	Lr24hr	42.4	dB(A)	Sigma(Lr24hr)	0.0	dB(A)				
East Facade	Area	41.4	50.8	8.7	7.26	-28.2	1.1	-5.7	0.0	2.3	23.3	0.0	23.3
Front Louvre	Area	50.7	56.0	3.5	8.28	-29.4	0.1	-9.0	0.0	3.3	24.1	0.0	24.1
Front Louvre	Area	51.9	57.5	3.6	7.54	-28.5	0.1	-8.4	0.0	2.8	26.5	0.0	26.5
North Facade	Area	38.4	47.3	7.8	7.52	-28.5	1.0	-5.6	0.0	2.1	19.3	0.0	19.3
Rear Louvre	Area	52.9	61.2	6.8	5.21	-25.3	0.2	-3.4	0.0	3.6	39.2	0.0	39.2
Roof 01	Area	41.2	40.5	0.9	5.58	-25.9	1.1	-4.0	0.0	2.0	13.8	0.0	13.8
Roof Louvre	Area	47.4	60.0	18.2	5.55	-25.9	0.6	-3.7	0.0	1.8	32.8	0.0	32.8
Side Louvre	Area	52.1	59.8	5.9	5.99	-26.5	0.1	-5.1	0.0	4.8	36.1	0.0	36.1
South Facade	Area	42.1	51.1	8.0	4.50	-24.1	1.1	-0.7	0.0	1.7	32.1	0.0	32.1
West Facade	Area	38.4	42.8	2.8	5.42	-25.7	1.0	-2.6	0.0	3.1	21.6	0.0	21.6

The predictions provided by Acoustic Enclosures Ltd indicate, as shown in the Figure, that the worst-case noise level outside the windows of the flats is in the range 42-44dBA (dark orange). Their report confirms a level of 42.4dBA at the worst affected location. The other windows have lower levels in the range below 42dBA, so most windows will be affected by levels of order 38-42dBA.

STATIONERS' HALL
External Plant Noise Assessment
Appendix B – Plant Noise Calculations



Calculation to R4 Housing Amen Court near Server Condenser

7th January 2020			Octave Band Centre Frequency, Hz									
Stationers' Hall - New Plant			63	125	250	500	1000	2000	4000	dB(A)		
Rec 4: To Houses at east end of Amen Court nr server condenser										limit	37.0	
										total	34.1	
extract fan - court room chimney			9.4	17.9	14.9	-0.6	-24.1	-28.1	-27.6	8.0		
supply fan - card room riser			10.5	14.0	2.5	-14.0	-43.5	-46.5	-34.5	-0.5		
Area 7										34.1		
major cooling condensers												
Kitchen												
Extract Fan - SWL			Duct Rising up through court room by chimney									
in duct extract outlet w A wtd			81.0	85.0	89.0	88.0	84.0	80.0	76.0	a wtd		
attenuator 630/4: 1500mm			5.0	10.0	20.0	35.0	42.0	42.0	36.0			
plenum, 0.31m ² , 1.5m, 45°, 1.8x1.4x0.4m			0.024	0.024	0.024	1.021	1.021	1.021	2.538			
end reflection, 560mm, 560mm			7	3	1	0	0	0	0			
rectangular duct, 5m, 560mm, 560mm (riser)			3.0	1.5	1.5	1.0	1.0	1.0	1.0			
end reflection, 560mm, 560mm			7.0	3.0	1.0	0.0	0.0	0.0	0.0			
			Lw	59.0	67.5	65.5	51.0	40.0	36.0	36.5		
Atmosphere			distance 40.0m	43.0	43.0	43.0	43.0	43.0	43.0	43.0		
			directivity : 90°, 30°, 800mm, 800mm	3.5	3.5	2.5	1.5	-11.0	-11.0	-11.0		
			Lp	19.4	27.9	24.9	9.4	-14.1	-18.1	-17.6	18.0	dB(A)
shielding 10			Lp with shielding	9.4	17.9	14.9	-0.6	-24.1	-28.1	-27.6	8.0	
Kitchen												
supply Fan SWL			74	79	82	79	74	71	70			
1000mm attenuator			6	10	18	33	47	47	34			
radiused bend, 1400mm			0	1	2	3	3	3	3			
mitred bend, 700mm			0	2	8	5	3	3	3			
riser - triangular duct												
rectangular duct, 5m, 850mm, 850mm			3	1.5	1	0.5	0.5	0.5	0.5			
end reflection, 750mm, 750mm			5.0	1.0	0.0	0.0	0.0	0.0	0.0			
			Lw	60.0	63.5	53.0	37.5	20.5	17.5	29.5		
Atmosphere			distance 40.0m	43.0	43.0	43.0	43.0	43.0	43.0	43.0		
			directivity : 90°, 30°, 800mm, 800mm	3.5	3.5	2.5	1.5	-11.0	-11.0	-11.0	dbadd	
			Lp	20.5	24.0	12.5	-4.0	-33.5	-36.5	-24.5	9.5	dB(A)
shielding 10			Lp with shielding	10.5	14.0	2.5	-14.0	-43.5	-46.5	-34.5	-0.5	
Server Room Condenser in light well on Amen Court												
Lp = Lpref - 20 log r + reflections - shielding + directivity												
Area 7			PUMY SP112YKM (x 2)									
cooling	SPL at 1m		46.0									
r	5.59	m	14.9									
reflections	6	dB	6.0									
shielding	3	nominal as in canyon	3.0									
directivity	0		0.0									
number of units	1		0.0									
Lp			34.1									
Assumes full duty and limited shielding, so is conservative												

Attachment 6 – Objections under Local plan 2036 and our response

In particular the objections cite (Ref; 3.1.1,3.1.2, 3.1.4, 3.1.6, 3.1.8, 3.4.5, 4.1.2, HL3 (3), (4) and (6)).

The objection also suggests that the proposed installation will infringe Strategic policy S1 – ‘Healthy and Inclusive City’

We understand that, due to changes to the planning use classes introduced by the government, public consultation on Local Plan 2036 will now not start until January 2021 and that the secretary of state is not likely to finalise adoption until early January 2022. It is not therefore entirely clear to us that reference to the local plan 2036 as an authoritative document is valid. Nevertheless, addressing those citations:

3.1.1: ‘The needs of the City’s diverse communities will be met in a sustainable and inclusive way, addressing the health, employment, education, leisure and housing needs of the variety of people who work, live and visit the City and incorporating the principles of Good Growth set out in the London Plan. ’

The Stationers Company is active in the educational sphere in London, using the Company’s Hall to, host the Shine School Media awards, Royal Marine Cadet Awards, as well to mark the award of the Company’s own postgraduate bursaries and other educational prizes.

Public tours of the hall can be booked in advance, making this important historic building accessible to people who are not members of the company.

The hall is also a long- standing venue for high quality leisure events and has been since the late seventeenth century when works by the composer Purcell were premiered at the hall. Our events include concerts given regularly by the Hanover Band which this year delivered the Beethoven 250 online concert series from the hall.

We believe that the measures we are planning to mitigate the noise levels of the installation demonstrate that we are addressing the health needs of the people living in the area. These measures will be set out below.

3.1.2 ‘The City’s population will enjoy good health and wellbeing. Health inequality across the City will be reduced. Workers and residents will have access to a range of health services within the Square Mile and beyond. Partnership working with businesses and organisations both inside and outside the City will effectively tackle the wider causes of poor health by substantially improving the City’s air quality, promoting the recreational benefits of a healthy lifestyle, and ensuring inclusive access to good quality open spaces and recreational opportunities.’

The only relevant objection being made in connection with this point seems to us to be that of a possible increase in noise. We will address this separately below.

3.1.4 ‘There will be a mix of housing, located in or near identified residential clusters, providing a high-quality living environment consistent with a city centre location. Housing will not be appropriate where it would conflict with the City’s global business role or result in poor residential amenity. Affordable housing will be required on-site within the City. Where off-site contributions are exceptionally allowed, they will be used to deliver new affordable housing within and outside of the City, principally on the City’s managed housing estates, contributing to meeting London’s wider housing needs.’

Clearly the policy vision relating to affordable housing is not relevant in the case of the Gallery. The claim here would appear to be that the installation of the air condenser units would result in '*poor residential amenity*' – but as the installation will not block out light, the objection can only be based on the assumed noise levels. There is no other way in which the installation could be perceived – or has been claimed - to be a threat to the 'amenity' of the residential properties. We will therefore address this under the heading of noise, below

3.1.6 '*Good building design and effective management of night-time entertainment, combined with a broad mix of uses, will reduce the potential for anti-social behaviour and adverse impacts on residents and will help to maintain residential amenity.*'

We are not clear if the objection here is to the location of the air condenser units and the potential for increased noise (which we will address later) or is generally addressed to events held at Stationers' Hall. As this application relates to the installation of the air condensers, we will confine our comments to the noise issue which we will address below.

3.1.8 '*To contribute to the development of a flourishing society where people are safe and feel safe, enjoy good health and wellbeing, have access to suitable employment opportunities and housing in cohesive communities and live enriched lives, achieving their full potential.*'

Our planning application poses no threat to the safety of the occupants of the Gallery. We will address the perceived issue of an increase in noise levels, which we believe is the only basis for a claim regarding health and wellbeing, below. As a venue open to many different groups, supporting education and culture for centuries, the Hall plainly acts to enrich lives.

3.4.5 Fleet Street and Ludgate Hill '*Residential development will be concentrated in lanes in and near identified residential areas and alleyways away from Fleet Street and Ludgate Hill to ensure a higher quality residential environment for residents.*'

We do not see how our proposed installation clashes with this vision statement.

4.1.2 '*The NPPF and the London Plan stress the importance of health and wellbeing and the role that the planning system can play in improving this. Planning can support strategies to improve health and cultural wellbeing and promote healthy communities. Planning decisions can have an influence on people's health, particularly through the design and management of new development.*'

As far as we can see, the only specific respect in which our application is opposed is on the basis of noise. Concerns at the impact on wellbeing and amenity stem from the assumed issue of noise. The installation will not block out light, emit fumes or in any other way threaten the safety of the occupants of the Gallery. We therefore address the issue of noise below.

HL3 (3), (4) and (6)

(3) '*A noise assessment will be required where there may be an impact on noise-sensitive uses. The layout, orientation, design and use of buildings should ensure that operational noise does not adversely affect nearby land uses, particularly noise-sensitive land uses such as housing, hospitals, schools, nurseries and quiet open spaces.*'

A noise assessment was conducted and has been presented as part of this pack.

(4). Any potential noise or light pollution conflicts between existing activities and new development should be minimised. New development must include suitable mitigation measures such as attenuation of noise or light spillage or restrictions on operating hours.

Efforts have been made to attenuate noise levels and have been discussed elsewhere in this pack.

(5). Noise and vibration from deconstruction and construction activities must be minimised and mitigation measures put in place to limit noise disturbance near the development.

(6). Developers will be required to demonstrate that there will be no increase in background noise levels associated with new plant and equipment.

The citation of this policy item confirms our understanding that the objection is based on noise. Noise assessment and mitigation measures are set out elsewhere in this pack.

Strategic Policy S1: Healthy and inclusive City

The objection specifically points towards the need to ‘*respect the City’s quieter places and spaces*’. We hope to show that the mitigation measures we are taking demonstrate that we are indeed respecting those locations.

Drawing on the same draft Local Plan, we cite in response:

3.3.6 ‘The City’s rich architectural and archaeological heritage will continue to be conserved and enhanced. Historic buildings will be sympathetically adapted to new uses where this is appropriate, enabling them to play their part in meeting the needs of the future City.’

As has been noted elsewhere, our project involves not only an improvement in temperature regulation but also improvements in accessibility as far as the constraints on improvement to a grade 1 building are permissible. These improvements, including those relating to the air cooling system are, we believe, vital to render the hall fit for social and industry events at the sort of standard people now expect.

3.4.8 ‘To ensure that the challenges facing the Key Areas of Change are met, complementing the core business function of the City, supporting the development of its global business offer and world-class cultural, heritage and creative facilities and distinguishing the City from other global centres.’

The present application and project are part of a larger plan to make the Hall more accessible to a wider community beyond that of the members of the Stationers’ company. In recent years the company has opened the hall to guided tours and opened up access to the company’s archives in our new archive centre. Improvements in temperature regulation are part of that overall plan.

Spatial Strategy

9 ‘Balancing growth with the protection and enhancement of the City’s unique heritage assets and open spaces.’

Strategic Policy S6

‘Protecting and enhancing existing cultural buildings and facilities where a continuing need exists and ensuring there is no overall loss of cultural facilities or diversity in the city’.

By investing in the modernisation of the hall including air cooling and the installation of the lift , the Company seeks to enhance the facilities of the building , making it more commercially viable in the longer term and thereby ensuring its long – term survival.

Policy CV1

Reasons for Policy

5.3.10 ‘There are many cultural facilities that are unique to the City and maintain an historic or cultural association with the Square Mile. Special consideration needs to be given to the protection of these facilities to maintain the City’s unique cultural heritage. Examples of such facilities include City Livery Halls, public houses which have a heritage, cultural, economic or social value to local communities, theatres, museums, churches and specialist retail premises such as the Silver Vaults in Chancery Lane.’

Strategic Policy S7: Smart Infrastructure and Utilities

4. ‘The improvement and extension of utilities infrastructure should be designed and sited to minimise adverse impacts on the visual amenity, character and appearance of the City and its heritage assets’

Strategic Policy S11: Historic Environment The City’s heritage assets, their significance and settings will be positively managed, by:

1conserving and enhancing heritage assets and their settings to ensure that the City’s townscapes and heritage can be enjoyed for their contribution to quality of life and wellbeing

We maintain that our improvements are designed to enhance this heritage asset.

2. encouraging the beneficial, continued use of heritage assets consistent with their conservation and enhancement, including those on the Heritage at Risk Register

Enhancements have been planned in consultation with Historic England. The listed nature of the building has determined the limits of the improvements we are able to make.

3. seeking improved public access, and enhanced experience and interpretation of the City’s cultural and heritage assets

Over the past three years we have been running guided tours of the building.

How the policy works

6.4.7 The policy enables adaptations to be made to heritage assets where the alterations are consistent with the conservation and significance of those assets. The sensitive adaptation of heritage assets contributes to the continual growth of the City’s economy. This and continued investment will ensure that buildings retain an active use so that the City’s buildings and heritage can be appreciated by present and future generations.

6.4.8 The City Corporation will encourage proposals to achieve the conservation and appropriate use of buildings and monuments on the Heritage at Risk Register to ensure their repair, long term well-being and where possible, avoid future deterioration

Policy HE1: Managing Change to Heritage Assets

Development proposals which affect heritage assets or their settings should be supported by a Heritage Assessment, to evaluate the significance of relevant heritage assets and their settings, to inform the proposals and maximise enhancements. Proposals should meet the following criteria:

1. Development should conserve and enhance the special architectural or historic interest and the significance of heritage assets and their settings.

2. Development in conservation areas should preserve or enhance the character or appearance of the conservation area. The loss of buildings and elements which contribute to the character, appearance or significance of a conservation area will be resisted

3. Development should not adversely affect Historic Parks and Gardens included on the Historic England Register and historic open spaces.

Figueira, Pearl

From: Seal, Garry
Sent: 20 January 2021 14:22
To: Figueira, Pearl
Cc: Austin, Hazel; Whitehouse, Robin
Subject: FW: 20/00686/FULL - Stationers Hall
Attachments: 180 SH - Planning Application 20 00686 FULL - Response to objections w attachments 07 01 21.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Pearl

The response from the applicant includes an acoustic report that demonstrates compliance with part a) of our standard condition. Part b) requires a check to be made after installation. As discussed please let us know if you need any additional information for any committee report or our attendance at committee.

Regards

Garry



Garry Seal
Environmental Health Officer
Pollution Team

Markets and Consumer Protection
City of London, Guildhall
Aldermanbury
EC2V 7HH

Tel.: 020 7332 3591
Mob: 07860 843560

NOTE: New hours for noisy works on Saturdays throughout the city are 09:00 to 14:00.

Updated SHVR: <https://www.cityoflondon.gov.uk/business/environmental-health/environmental-protection/Documents/3a-Site-Hours-Variation-Request-Sheet-Jan-2018.pdf>

Register non-road mobile machinery (NRMM) via this link: nrmm.london

Should you wish to provide feedback on the service you have received, please follow this link: surveymonkey.com/r/PHPP_Noise

The UK is currently experiencing a public health emergency as a result of the COVID-19 pandemic. It is critical that employers, employees and the self-employed take steps to keep everyone safe. Below are links to the up to date advice regarding your work sector both from Government and Industry bodies. Please take the time to regularly check that you are operating within the latest guidelines to ensure everyone's safety.

<https://www.gov.uk/guidance/working-safely-during-coronavirus-covid-19/construction-and-other-outdoor-work>
<https://www.constructionleadershipcouncil.co.uk/news/clc-site-operating-procedures-statement/>
<https://www.constructionleadershipcouncil.co.uk/news/site-operating-procedures-version-4-published/>

Comments for Planning Application 20/00686/FULL

Application Summary

Application Number: 20/00686/FULL

Address: Stationers Hall Stationers Hall Court London EC4M 7DD

Proposal: Installation of condensing units within louvred acoustic enclosure on flat roof to south of the Great Hall of the The Stationers Hall. Units to serve the Great Hall, Court Room and Stock Room.

Case Officer: Beverley Bush

Customer Details

Name: Ms Ann Holmes

Address: Flat 1 43 Bartholomew Close London

Comment Details

Commenter Type: Councillor/Ward Member

Stance: Customer objects to the Planning Application

Comment Reasons:

- Residential Amenity

Comment: It seems to me this proposal adversely impacts on neighbouring residential dwellings. I would have thought it would be possible to have a system which avoids so doing.

Dear Ms Bush,

Thank you for your email of 5 February with the link to the latest documents concerning the planning application 20/00686/FULL from the Stationers' Hall. We appreciate the extent to which the City Planners have made efforts to respond to our concerns with the conditions placed on the application. We also acknowledge that representatives of Stationers' Hall have responded to those concerns in their additional application documents and in the Zoom conversation with The Gallery flat owners on 2 February 2021.

The response from the Stationers' Hall is, however, not totally helpful and we have the following comments and questions.

1. The Stationers state that an application for air conditioning units was recently approved at The Gallery on appeal. You will be aware, of course, that the units on the 6th floor were the subject of a number of objections from both the Gallery Management Company and a number of individual flat owners and was twice rejected by the City's Planning Committee. It was only approved after an appeal to the Secretary of State overrode the City of London.

2. The Stationers have submitted a paper by Tobit Curteis Associates LLP which suggests an alternative solution to the climate control problem, apparently obviating the need for external units:

"Therefore, the use of the extraction system currently in place has the potential benefit of drawing in air from other parts of the building, which will have been conditioned to some extent by passive heating/cooling from the building fabric, as well as absorption/desorption of moisture from the porous structure. An assessment should be made of the flow rate of the current system and whether conditions could be improved with an increase in the level of air exchange. The possibility of employing humidistat control on the extraction system should also be investigated."
(items 6 and 7 on pages 19 - 22).

The firm make the point that the Stationers' Hall is not a museum environment but a commercial building.

Why has this upgrading option not been selected as it appears not to need outside units?

3. The new documents show that new condensers are to be installed elsewhere around the buildings, for example, in the kitchen area. Could these areas not be used for the proposed units? There is also space in the car park for a discreet building.
4. We wonder if English Heritage and the City's Conservation Advisory Committee were aware of The Gallery's listed status and took its classification into consideration when they inspected? English Heritage refer only to the "scheduled monument of the Stationers' Hall."
5. Stationers state that The Gallery is not in an official City residential area. Nonetheless, The Gallery is a listed residential building for 17 flat owners, and there are other flats on the opposite side of the road. The Stationers also state that this is "one of the busiest parts of the City and it is likely that there will always be some loss of amenity through activity in the area." The amenity in The Gallery has always been affected at the front by daytime traffic noise in Ludgate Hill. However, the rooms at the back of The Gallery are bedrooms which look out onto the valued peace of the Stationers' garden, which is one of the City's "quieter places and spaces." This is precisely why the proposed plant would have a detrimental effect on the amenity of The Gallery and the health and wellbeing of

its residents. The main loss of amenity recently has been the increasing commercial activity of the Stationers over the past 20 years, with noisy events and associated activity such as the clearing of bottles at night or early mornings.

6. The noise measurements have been made for the Stationers in relation to the offices of the Old Bailey, which are not close to The Gallery. Any measurement should be carried out near The Gallery by an independent firm and at the weekend when the area is quieter, except when the Stationers hold events. Who would check the results - would they be submitted to the City? The noise modelling by LFA Acoustics was done on the basis that the units would operate continually at 50% of capacity – how would this be monitored?
7. The Stationers do not explain why they answered questions 19 and 20 of the application in the negative and have not amended the application in the revised documents. The Stationers' Company run a commercial operation (as it makes clear in the submissions) hiring out their premises for social and business events on a timed basis. Their explanation in the new document refers to a need to stabilise the working environment but does not answer the question of the errors in the application.
8. The Stationers have based their numbering of The Gallery on an OS map, but failed to notice that the numbering was incorrect. There is confusion in the documents about which neighbouring building is referred to: the residential Gallery, No. 38 Ludgate Hill or the offices in No. 32, which makes it difficult to assess the impact on The Gallery. The shops on Ludgate Hill also have their own numbering.
9. The Stationers' Hall representatives revealed, when questioned at our meeting that the proposed plant will also serve as a heating system and will therefore be used year-round. We do not believe this was mentioned in the application.

We confirm our objection to the location of this proposed "Large Cooling Scheme," which is also a heating system, and consider that it should be located away from The Gallery, elsewhere on the Stationers' grounds and not under our bedroom and the bedrooms of others.

At our meeting on 2 February with representatives of the Stationers they agreed not to operate the plant during night hours. They also told us that their events conclude at 11 pm. It would appear therefore that there is agreement that the plant should not operate between the hours of 11 pm until, say, 8 am.

We understand that it is possible for the Planning Authority to limit the hours of use (under 3.21.15 of the current Local Plan.) If our questions above are answered and a condition prohibiting night time use is added to the City's response to the planning application, we would be prepared to reconsider our objection.

We hope that a new and more positive and cooperative relationship can be built with the Stationers Company for the future.

Kathryn Colvin

Brian Colvin