RESULTS OF A 24-HOUR NOISE LEVEL SURVEY CARRIED OUT AT THE REAR OF THE PROPERTY AT 1 ELY PLACE, LONDON EC1 AND AN NOISE IMPACT ASSESSMENT OF PLACING NEW MECHANICAL PLANT ON THE FOURTH FLOOR ROOF OF THE BUILDING

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Release by : I J Marchant

Client	:	Peter Deer and Associates
Project	:	1 Ely Place, London EC1
Emtec Ref.	:	QF9836/PF6793/RP2
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1.0. INTRODUCTION

This report details the results of a 24-hour noise level survey carried out at the rear of the property at 1 Ely Place, London EC1. The survey was carried out on the flat roof at the rear of the building at ground floor level.

The objectives of the survey were as follows:

- To assess the proposal to install new mechanical plant on the roof of the building.
- To identify the nearest residential and commercial properties that might be affected by noise from the proposed new plant.
- To establish the existing background noise level outside the nearest affected properties.
- To recommend noise limits and any necessary mitigating measures in order to ensure that the operation of the new plant does not disturb the occupants of the nearest affected properties and meets the planning requirements of the local authority.

This report has been divided into the following sections for ease of analysis:

2.0. SITE DESCRIPTION

1 Ely Place is a 6 storey, commercial building occupying a site to the north of Holborn Circus between Ely Place and Hatton Gardens. The building is currently used as offices and is surrounded by other commercial buildings. The building fronts onto Ely Place to the east, Holborn Circus to the south and Hatton Garden to the west. Holborn Circus is a major road intersection with significant through traffic movements. The façade of the building which fronts onto Ely Place can be seen in the attached Photo A and the south west façade of the building, which fronts onto Holborn Circus and Hatton Gardens, can be seen in the attached Photo B.

At the rear of the building is a light well area which is surrounded by other commercial buildings. The building has a large iron security cage around the ground floor flat roof area. Some items of plant, which presently serve floors 1 to 3 of No 1 Ely Place, are contained within this security cage and other items of plant serving floors 1 to 3 of No 1 Ely Place are located on the second floor roof and fixed to the rear wall of the building. The existing plant associated with floors 1 to 3 of No 1 Ely Place can be seen in attached Photos C, E and F.

A large number of other small air cooled condensers, associated with the other surrounding commercial office buildings, can be seen in the attached Photos D and F.

An aerial view of the site can be seen in the attached Photo F.

3.0. TEST INSTRUMENTATION

All measurement equipment used during the survey complied with the requirements of BS4142:2014 “Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas”. Details of the equipment are as follows:

Integrating Sound Level Meter:	Rion type NL-52 class 1 Sound Level Meters fitted with Rion type UC-59 ½ inch condenser microphones. Serial No’s.: 01121380, 01121378
Statistical Analysis Modules:	Built in module capable of computing the percentile levels L1, L10, L50, L90 and L99 and also the Leq level.
Acoustic Calibrator:	Bruel & Kjaer type 4231 electronic calibrator. Serial No.: 1934160

Calibration was performed before and after the survey and found to be, in all cases, +/- 0.1 dB from the reference source.

3.1. Existing Noise Climate

Road traffic travelling through Holborn Circus could be clearly heard during the manned periods at the start and the end of the survey, so the noise levels measured will include contributions from road vehicle movements.

Commercial jet aircraft were observed at medium and high altitude during the manned periods at the start and the end of the survey, so it is possible that the noise levels measured could include contributions from medium altitude jet aircraft.

There are no overland railways nearby and no construction was being carried out in the vicinity, so the measured noise levels should be representative of normal background levels.

4.0. TEST PROCEDURE

The survey was conducted during a continuous 24-hour period from 13:06pm, at location A, on Wednesday the 26th of June 2019 to 13:46pm, at location B, on Thursday the 27th of June 2019.

Data was continuously acquired throughout the measurement period with the individual averaging time for statistical noise data set to 15 minutes. The following 'A' weighted statistical measurements were recorded concurrently: -

LA_1 - The Sound Pressure Level exceeded for 1% of the measurement period.

LA_{10} - The Sound Pressure Level exceeded for 10% of the measurement period.

LA_{50} - The Sound Pressure Level exceeded for 50% of the measurement period.

LA_{90} - The Sound Pressure Level exceeded for 90% of the measurement period. LA_{90} is considered to represent the "background noise level" during the measurement period and is used for the assessment of noise to determine the likelihood of complaints (See BS 4142:2014).

LA_{99} - The Sound Pressure Level exceeded for 99% of the measurement period.

LA_{eq} - The continuous steady state Sound Pressure Level that has the same acoustic energy as the real fluctuating level.

4.1. Measurement Positions

The microphone was mounted on a vertical boom and attached to the outside of the iron security cage which covers the ground floor flat roof at the rear of the building. The microphone was approximately 3m above the ground floor flat roof and 3.5m from the rear walls of the building. The location of this microphone can be seen in the attached Photos C and D.

The microphones was connected by a low impedance cable to the associated instrumentation which was contained within a weatherproof housing.

4.2. Weather Conditions

The weather conditions prevailing during the measurement period were in line with those recommended in BS 4142:2014: -

Weather daytime: -	Clear	Weather night time: -	Clear
Wind daytime: -	Calm	Wind night time: -	Calm

The microphone was protected throughout the tests by an acoustically transparent wind balloon.

5.0. RESULTS AND EVALUATION OF NOISE CRITERIA

The raw test data, gathered during the noise survey, is given in Appendix 'A 'of this report.

The 'A' Weighted Leq levels measured over each 15 minute interval throughout the 24-hour period, denoted by LA_{eq} (15 mins), are displayed as a bar graph on the attached Sketch No QF/9836/TT1 at the back of this report.

The 'A' Weighted percentile levels measured over each 15 minute interval, denoted by LA_{10} (15 mins), LA_{50} (15 mins) and LA_{90} (15 mins) are displayed as line graphs on the attached Sketch No QF/9836/TT2 at the back of this report.

5.1. Summary of Results

The table QF/9836/DD1 below summarises the noise levels taken over the 24-hour period in terms of the maximum and minimum Sound Pressure Levels recorded.

Table QF/9836/DD1 – Summary of Maximum and Minimum Noise Levels

	LA_{eq}	**LA_{1}**	**LA_{10}**	**LA_{50}**	**LA_{90}**	**LA_{99}**
Minimum	51dBA	56dBA	52dBA	51dBA	50dBA	50dBA
Maximum	61dBA	70dBA	64dBA	58dBA	56dBA	56dBA

The following table QF/9836/DD2 states the minimum LA_{90} noise levels recorded during the time periods of 7.00am to 23.00pm (Daytime/Evening) and between 23.00pm and 7.00am (Night time)

Table QF/9836/DD2 – Minimum LA_{90} Noise Levels – Daytime and Night time

Time of Day	**Location**	**LA_{90}**
Minimum Daytime/Evening (7am to 11pm)	B	51dBA
Minimum Night Time (11pm to 7am)	B	50dBA

5.2.

5.3. Summary of the Local Authority's planning requirements regarding noise for noise sensitive properties

The local planning authority is the London Borough of Camden.

The Camden Local Plan sets out the Council's planning policies and replaces the Core Strategy and Development Policy planning documents (adopted in 2010). It ensures that Camden continues to have robust, effective and up-to-date planning policies that respond to changing circumstances and the borough's unique characteristics and contribute to delivering the Camden Plan and other local priorities.

The Local Plan will cover the period from 2016-2031. Policy A4 of The Local Plan is entitled Noise and Vibration and states:

The Council will seek to ensure that noise and vibration is controlled and managed. Development should have regard to Camden's Noise and Vibration thresholds (Appendix 3). We will not grant planning permission for a) a development likely to generate unacceptable noise and vibration impacts or b) a development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses. We will only grant permission for noise generating development, including any plant and machinery, if it can be operated without causing harm to amenity. We will also seek to minimise the impact on local amenity from deliveries and from the demolition and construction phases of development.

The parts of Appendix 3 that we have identified as relevant to this application are as follows:

Appendix 3: Noise thresholds

The significance of noise impact varies dependent on the different noise sources, receptors and times of operation presented for consideration within a planning application. Therefore, Camden's thresholds for noise and vibration evaluate noise impact in terms of various 'effect levels' described in the National Planning Policy Framework and Planning Practice Guidance:

- *NOEL – No Observed Effect Level*
- *LOAEL – Lowest Observed Adverse Effect Level*
- *SOAEL – Significant Observed Adverse Effect Level*

Three basic design criteria have been set for proposed developments, these being aimed at guiding applicants as to the degree of detailed consideration needed to be given to noise in any planning application. The design criteria outlined below are defined in the corresponding noise tables. The values will vary depending on the context, type of noise and sensitivity of the receptor:

- *Green – where noise is considered to be at an acceptable level.*
- *Amber – where noise is observed to have an adverse effect level, but which may be considered acceptable when assessed in the context of other merits of the development.*
- *Red – where noise is observed to have a significant adverse effect.*

Table C: Noise levels applicable to proposed industrial and commercial developments (including plant and machinery)

Existing Noise sensitive receptor	*Assessment Location*	*Design Period*	*LOAEL (Green)*	*LOAEL to SOAEL (Amber)*	*SOAL (Red)*
*Dwellings***	*Garden used for main amenity (free field) and Outside living or dining or bedroom window (façade)*	*Day*	*'Rating level' 10dB* below background*	*'Rating level' between 9dB below and 5dB above background*	*'Rating level' greater than 5dB above background*
*Dwellings***	*Outside bedroom window (façade)*	*Night*	*'Rating level' 10dB* below background and no events exceeding 57dBL_{Amax}*	*'Rating level' between 9dB below and 5dB above background or noise events between 57dB and 88dB L_{Amax}*	*'Rating level' greater than 5dB above background and/or events exceeding 88dBL_{Amax}*

**10dB should be increased to 15dB if the noise contains audible tonal elements (day and night). However, if it can be demonstrated that there is no significant difference in the character of the residual background noise and the specific noise from the proposed development then this reduction may not be required. In addition, a frequency analysis (to include, the use of Noise Rating (NR) curves or other criteria curves) for the assessment of tonal or low frequency noise may be required.*

***levels given are for dwellings, however, levels are use specific and different levels will apply dependent on the use of the premises.*

The periods in Table C correspond to 0700 hours to 2300 hours for the day and 2300 hours to 0700 hours for the night. The Council will take into account the likely times of occupation for types of development and will be amended according to the times of operation of the establishment under consideration.

There are certain smaller pieces of equipment on commercial premises, such as extract ventilation, air conditioning units and condensers, where achievement of the rating levels (ordinarily determined by a BS:4142 assessment) may not afford the necessary protection. In these cases, the Council will generally also require an NR curve specification of NR35 or below, dependant on the room (based upon measured or predicted Leq (5mins) noise levels in octave bands, 1 metre from the façade of affected premises, where the noise sensitive premise is located in a quiet background area.

5.4. Determination of noise sensitive property design criteria

We believe that the new plant, which we believe will consist of an air cooled condensing unit and a small heat recovery Air Handling Unit, will not emit noise that will have a distinguishable discrete tone or emit noise that has distinctive impulses. The fans and compressors within the condenser unit and the Air Handlin Unit will be inverter controlled and will slowly ramp up to their operating speed. To comply with a green rating from the table above the new units should therefore have a Sound Pressure Level 10dB below the lowest LA_{90} background noise level at 1 metre from the nearest noise sensitive window.

The lowest background noise levels measured during the 24 hour survey was 50dBA and lowest daytime/evening (7am to 11pm) minimum LA_{90} noise levels measured during the survey was 51dBA

We believe that the proposed mechanical plant will only run during the daytime/evening, and will not be operated during the night time period, so applying a rating level that is 10dB below the lowest daytime/evening and 24 hour noise levels would give the following limiting rating LA_{eq} levels as listed in table QF/9836/DD3 below:

Table QF/9836/DD3 – Proposed Design Rating Levels

Existing Noise sensitive receptor	*Design Period*	*Lowest measured background level*	***Proposed rating level***	*Proposed Local Authority criteria*
Dwellings	*Daytime*	*51dBA*	***41dBA***	*Green*
Dwellings	*Night time*	*50dBA*	***40dBA***	*Green*

5.5. Determination of commercial design criteria

The use of the commercial premises, which surround the light well at the rear of the building, comprise generally of offices. It is therefore proposed that the recommendations given in BS8233:2014 be adhered to and that Table 2 of that standard be considered.

	Good	Reasonable
Open plan offices: $L_{Aeq,T}$	45dBA	50dBA

We propose that the lower of these rating levels is adopted, i.e. 45dBA. Assuming a 10dB noise reduction due to a partially open window the rating level at 1 metre external to the nearest affected office windows should be no more than 45dBA + 10dB = 55dBA.

5.6. Summary of external noise criteria

Based upon the results of the survey and the above design criteria we summarise the actual design rating levels to be adopted for this project in table QF/9836/DD4: -

Table QF/9836/DD4 – recommended design rating levels $L_{Ar,T}$

Type of premises	**Location**	**$L_{Ar,T}$ (7am – 11pm)**	**$L_{Ar,T}$ (11pm – 7am)**
Noise sensitive	In Ely Place	41dBA	40dBA
Commercial	Rear Lightwell	55dBA	-

6.0 DISCUSSION OF RESULTS

It is proposed to place a single air cooled condenser and a heat recovery Air Handling Unit on the roof of the building next to the existing lift motor room. The proposed location of the plant is indicated on the attached Photos E and F.

The following table QF/9836/DD5 lists the Sound Pressure level of the new condenser together with the natural and required attenuation to meet the limiting LAeq noise level of 55dBA at 1 metre from the adjacent office windows.

Table QF/9836/DD5 – Noise Level of Condenser on the fourth floor roof at the rear of No 1 Ely Place, at full duty, and the natural attenuation to 1 metre from Nearest Office Window

Equipment/Attenuation	Sound Pressure Level (dB ref 2 x 10^{-5} N/m^2)								dBA
	63	125	250	500	1k	2k	4k	8k	
Mitsubishi PURY EP450YNWA at 1m (free field)	74	64	67	65	60	55	50	46	66
Reverberation	+5	+5	+5	+5	+5	+5	+5	+5	
Barrier effect of plant screen/edge of roof (200mm)	-6	-8	-9	-11	-14	-16	-18	-18	
Distance attenuation to 5 metres ($10\log(A_4/A_1)$)	-8	-8	-8	-8	-8	-8	-8	-8	
Resultant SPL @ 1m from nearest office window	65	53	55	51	43	36	29	25	52

The above calculation shows that if a solid screen, of superficial mass of at least 15kgs/m^2, is placed around the condenser, as shown on the attached Peter Deer sketch drawing, then the limiting LAeq noise level of 55dBA will ot be exceeded at 1 metre from the third floor office windows. This will allow daytime/evening operation of the condenser between the hours of 7am and 11pm.

The nearest residential windows to the fourth floor roof plant area is at least 15 metres along the rear of the properties in Ely Place or on the top floor of 5 Hatton Gardens and benefit from a number of brick walls and other protrusions that will act as barriers to the noise from the condenser. The residential properties are also at least one floor lower than the fourth floor roof.

The Table QF/9836/DD6 below lists the noise level of the condenser and the natural and required attenuation to meet the limiting LAeq noise level of 41dBA at 1 metre from the rear windows of the top floor flat in Ely Place or at 5 Hatton Gardens. The location of the fourth floor plant area and the nearest residential property are indicated on the attached Photo F.

Table QF/9836/DD6 – Noise Level of Condenser in the fourth floor plant enclosure, at full duty, and the natural attenuation to 1m from the Nearest Residential Window

Equipment/Attenuation	Sound Pressure Level (dB ref 2 x 10^{-5} N/m^2)								dBA
	63	125	250	500	1k	2k	4k	8k	
Mitsubishi PURYEP450YNWA at 1m free field	74	64	67	65	60	55	50	46	66
Reverberation of Plantroom	+5	+5	+5	+5	+5	+5	+5	+5	
Barrier effect of lift motor room plant screen/edge of roof (500mm)	-8	-10	-12	-14	-18	-18	-18	-18	
Distance attenuation to 15 metres - plain source (15log14)	-17	-17	-17	-17	-17	-17	-17	-17	
Resultant SPL @ 1m from nearest residential window	54	42	43	39	30	25	20	16	40

The above calculation again show that if a solid screen is placed around the condenser, as shown on the attached Peter Deer sketch drawing attached, then the limiting LAeq noise level of 41dBA will not be exceeded at 1 metre from the nearest residential windows. This will again allow daytime/evening operation of the condenser between the hours of 7am and 11pm.

The layout of the fourth floor plant enclosure, with the condenser and the heat recovery Air Handling Unit are shown on the attached Peter Deer sketch and so long as the fresh air inlet and exhaust air outlet to/from the Air Handling Unit are fitted with silencers having the following dynamic insertion loss the noise from the Air Handling Unit will not increase the noise level at either the third floor office windows of 1 Ely Place or at 1 metre from the residential properties in Ely Place and on the top floor of 5 Hatton Gardens. The silencer selections are based upon the use of an ECE Ltd MVHR-4 unit having the sound power levels listed in Table QF/9836/DD7 below.

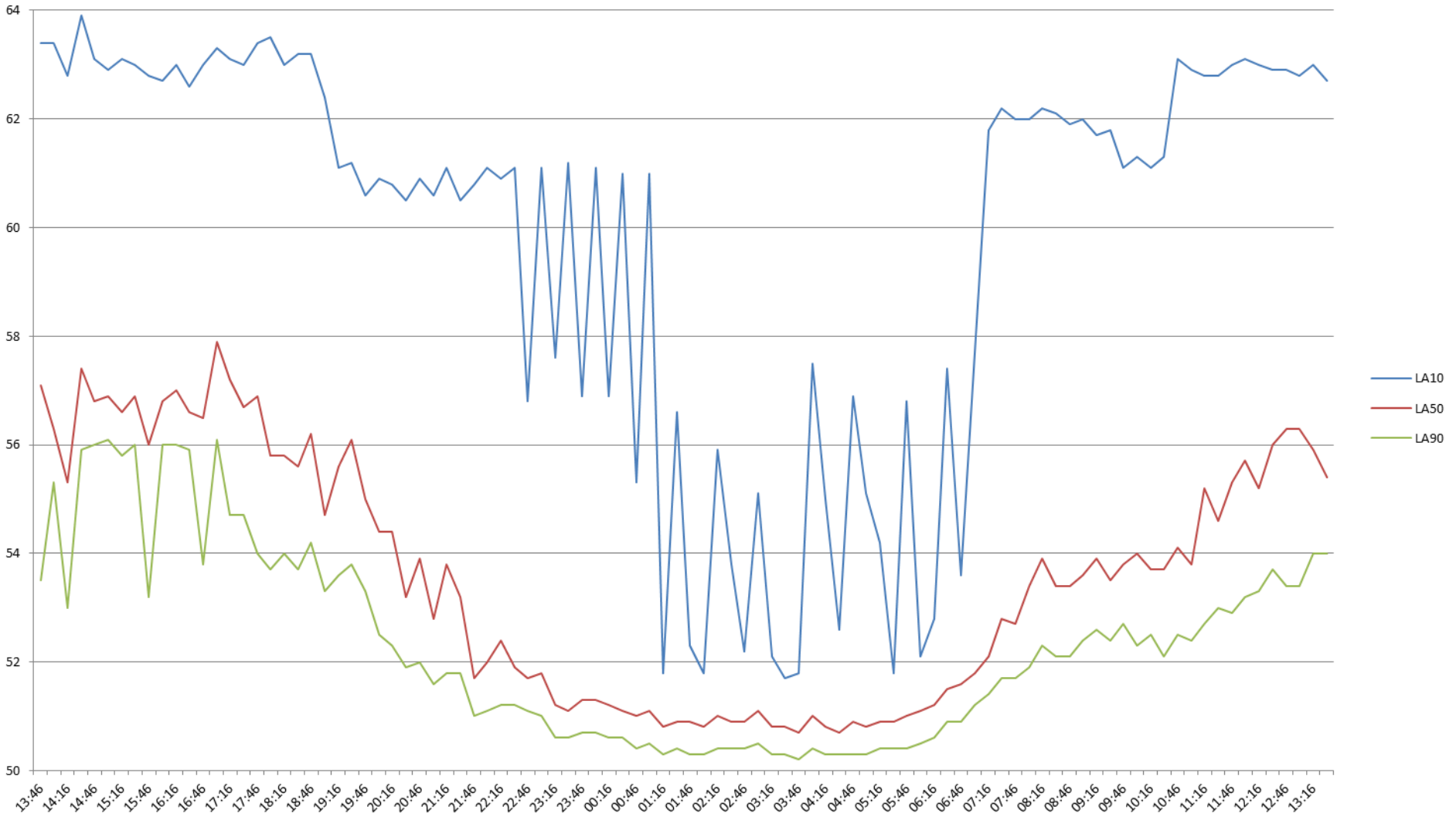
Table QF/9836/DD7 – Sound Power level of Air Handling Unit and dynamic insertion loss of silencers required on the Fresh Air and Exhaust of the unit

Equipment Noise level and required silencer attenuation	Sound Power (dB ref 10^{-12}Watts) and Dynamic Insertion Losses in dB of required silencers							
	63	125	250	500	1k	2k	4k	8k
Sound Power level ECE Inlet	-	72	73	76	76	75	71	69
MVHR-4 at full Outlet	-	76	78	81	81	80	76	74
Fresh Air Inlet Silencer – Emtec RAAC/38/600CL insertion loss (dB)	3	6	13	21	28	29	25	15
Exhaust Air Outlet Silencer – Emtec RAAC/38/900CL insertion loss (dB)	4	7	15	24	32	33	29	18

The condenser and the Air Handling Unit should be mounted onto neoprene-in-shear, anti-vibration mountings having a minimum static deflection of 6mm, so as to isolate any structural borne noise from entering the fabric of the building.

If the solid screen shown on the attached Peter Deer sketches is erected around the plant and the fresh air inlet and exhaust air outlet silencers listed in Table QF/9836/DD7 are fitted to the Air Handling Unit then the installation of the new plant will meet the planning requirements of the local council and should lead to no justifiable complaints under the guidelines of BS4142:2014.

Emtec Products Ltd
13th August 2020



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CLIENT: Peter Deer and Associates	*PF No: 6793*				*APPROVED BY:* *MGR*	*REVISION*							
PROJECT: 1 Ely Place, London EC1N	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* *MGR*	*SKETCH No. QF/9836/TT2*							

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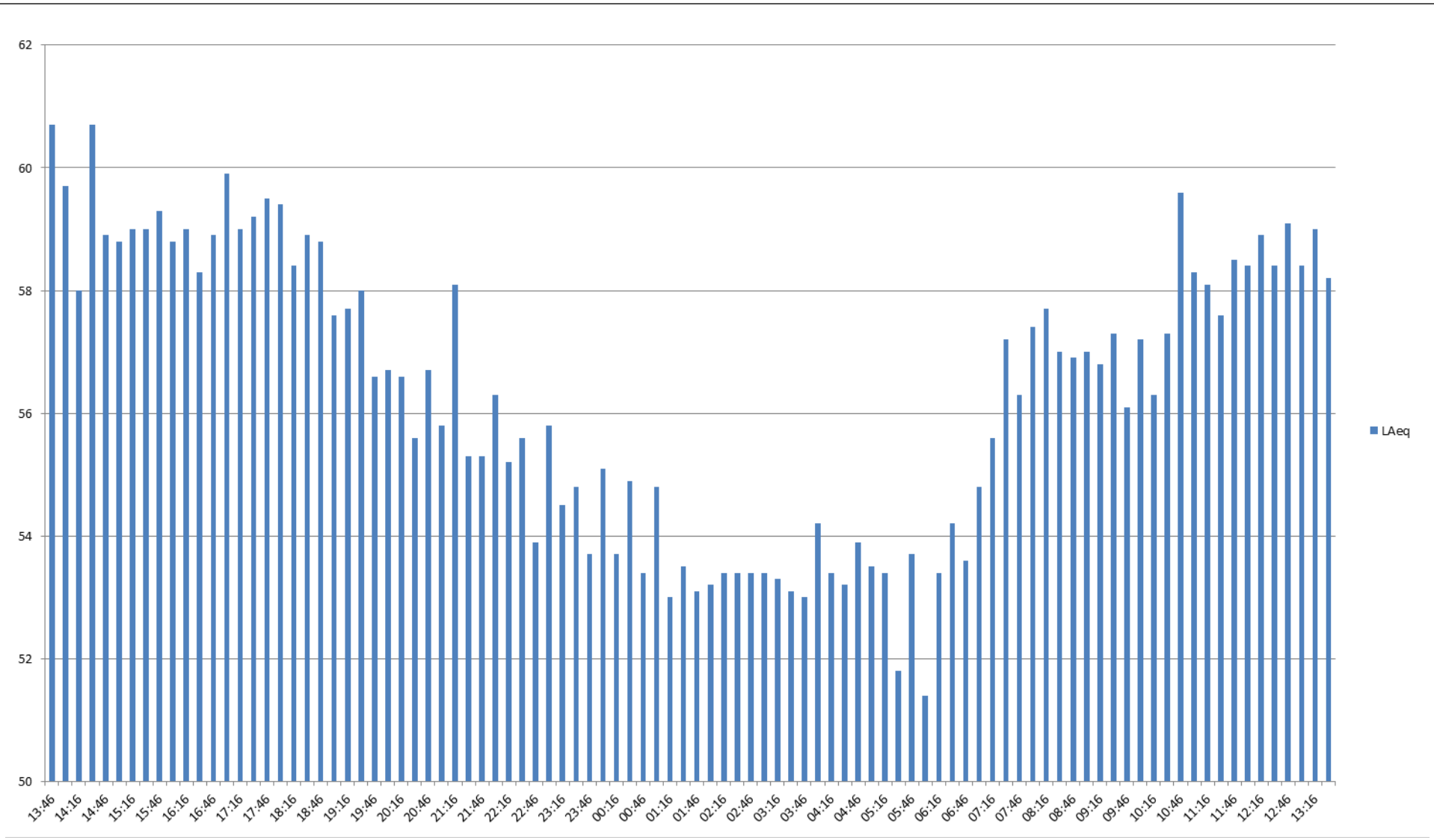

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CLIENT: *Peter Deer and Associates*	*PF No: 6793*				*APPROVED BY:* *MGR*	*REVISION*							
PROJECT: *1 Ely Place, London EC1N*	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* *MGR*	*SKETCH No. QF/9836/TT1*							

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APPENDIX ‘A’

Raw Data – Noise Survey

26th June to 27th June 2019

Project: 1 Ely Place, London EC1N - Rear Lightwell
Ref: QF9836/PF6793/RP2
Client: Peter Deer and Associates
Date: 26th to 27th June 2019
Serial No: 1121378

Address	Start Time	LA_{eq}	LE	Lmax	Lmin	LA_{1}	LA_{10}	LA_{50}	LA_{90}	LA_{99}
1	13:46	61	90	83	51	69	63	57	54	52
2	14:01	60	89	78	54	65	63	56	55	55
3	14:16	58	88	68	52	66	63	55	53	52
4	14:31	61	90	68	55	67	64	57	56	56
5	14:46	59	89	68	54	64	63	57	56	55
6	15:01	59	88	65	55	64	63	57	56	56
7	15:16	59	89	66	54	64	63	57	56	55
8	15:31	59	89	65	55	64	63	57	56	56
9	15:46	59	89	76	52	69	63	56	53	52
10	16:01	59	88	64	55	63	63	57	56	56
11	16:16	59	89	65	55	64	63	57	56	55
12	16:31	58	88	67	55	64	63	57	56	56
13	16:46	59	89	66	52	64	63	57	54	53
14	17:01	60	90	68	53	65	63	58	56	54
15	17:16	59	89	67	52	64	63	57	55	54
16	17:31	59	89	68	53	64	63	57	55	54
17	17:46	60	89	68	52	65	63	57	54	53
18	18:01	59	89	69	52	66	64	56	54	53
19	18:16	58	88	66	52	64	63	56	54	53
20	18:31	59	89	73	52	65	63	56	54	53
21	18:46	59	88	68	52	64	63	56	54	53
22	19:01	58	87	65	51	64	62	55	53	52
23	19:16	58	87	65	52	62	61	56	54	53
24	19:31	58	88	64	52	62	61	56	54	53
25	19:46	57	86	65	51	62	61	55	53	52
26	20:01	57	86	65	51	62	61	54	53	52
27	20:16	57	86	62	51	62	61	54	52	52
28	20:31	56	85	63	50	62	61	53	52	51
29	20:46	57	86	67	51	63	61	54	52	51
30	21:01	56	85	64	50	62	61	53	52	51
31	21:16	58	88	77	51	68	61	54	52	51
32	21:31	55	85	63	50	62	61	53	52	51
33	21:46	55	85	62	50	61	61	52	51	51
34	22:01	56	86	67	50	63	61	52	51	51
35	22:16	55	85	63	50	62	61	52	51	51
36	22:31	56	85	66	50	62	61	52	51	51
37	22:46	54	84	63	50	62	57	52	51	51
38	23:01	56	85	65	50	62	61	52	51	51
39	23:16	55	84	63	50	62	58	51	51	50
40	23:31	55	84	63	50	62	61	51	51	50
41	23:46	54	83	63	50	62	57	51	51	50
42	00:01	55	85	79	50	62	61	51	51	50
43	00:16	54	83	63	50	62	57	51	51	50
44	00:31	55	85	63	50	62	61	51	51	50
45	00:46	53	83	63	49	62	55	51	50	50
46	01:01	55	84	63	50	62	61	51	51	50
47	01:16	53	83	63	49	62	52	51	50	50
48	01:31	54	83	63	50	62	57	51	50	50
49	01:46	53	83	62	50	62	52	51	50	50
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53	02:46	53	83	64	50	62	52	51	50	50
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63	05:16	53	83	65	49	62	54	51	50	50
64	05:31	52	81	73	50	59	52	51	50	50
65	05:46	54	83	63	50	62	57	51	50	50
66	06:01	51	81	63	50	56	52	51	51	50
67	06:16	53	83	63	50	62	53	51	51	50
68	06:31	54	84	67	50	62	57	52	51	50
69	06:46	54	83	71	50	63	54	52	51	51
70	07:01	55	84	64	50	63	58	52	51	51
71	07:16	56	85	66	50	63	62	52	51	51
72	07:31	57	87	69	51	63	62	53	52	51
73	07:46	56	86	64	51	63	62	53	52	51
74	08:01	57	87	64	51	63	62	53	52	51
75	08:16	58	87	64	51	63	62	54	52	52
76	08:31	57	87	64	51	63	62	53	52	52
77	08:46	57	87	65	51	63	62	53	52	52
78	09:01	57	87	66	51	63	62	54	52	52
79	09:16	57	86	65	52	63	62	54	53	52
80	09:31	57	87	64	51	62	62	54	52	52
81	09:46	56	86	63	52	62	61	54	53	52
82	10:01	57	87	70	51	62	61	54	52	52
83	10:16	56	86	64	51	63	61	54	53	52
84	10:31	57	87	64	51	63	61	54	52	52
85	10:46	60	89	75	51	70	63	54	53	52
86	11:01	58	88	66	51	64	63	54	52	52
87	11:16	58	88	65	52	64	63	55	53	52
88	11:31	58	87	67	52	64	63	55	53	52
89	11:46	59	88	69	52	64	63	55	53	52
90	12:01	58	88	66	52	64	63	56	53	53
91	12:16	59	89	74	52	64	63	55	53	53
92	12:31	58	88	68	52	64	63	56	54	53
93	12:46	59	89	65	52	64	63	56	53	53
94	13:01	58	88	72	52	63	63	56	53	53
95	13:16	59	89	65	52	64	63	56	54	53
96	13:31	58	88	65	52	63	63	55	54	53

APPENDIX ‘B’

Photos and Sketch

Photo A – View of façade of 1 Ely Place, London EC1 facing onto Ely Place

Photo B – View of No 1 Ely Place looking across Holborn Circus

Photo C – View of rear of 1 Ely Place showing plant at low level and neighbour's condensers

Existing neighbouring plant

Microphone in Location B

Photo D – View to the rear of 1 Ely Place, looking North, showing neighbouring properties' condensersl

Neighbouring Condensers for ground to third floor of No 1 Ely Place

Proposed location of new fourth floor plantroom next to existing lift motor room structure

Photo E – View from the rear of building looking up to location of proposed fourth floor plantroom

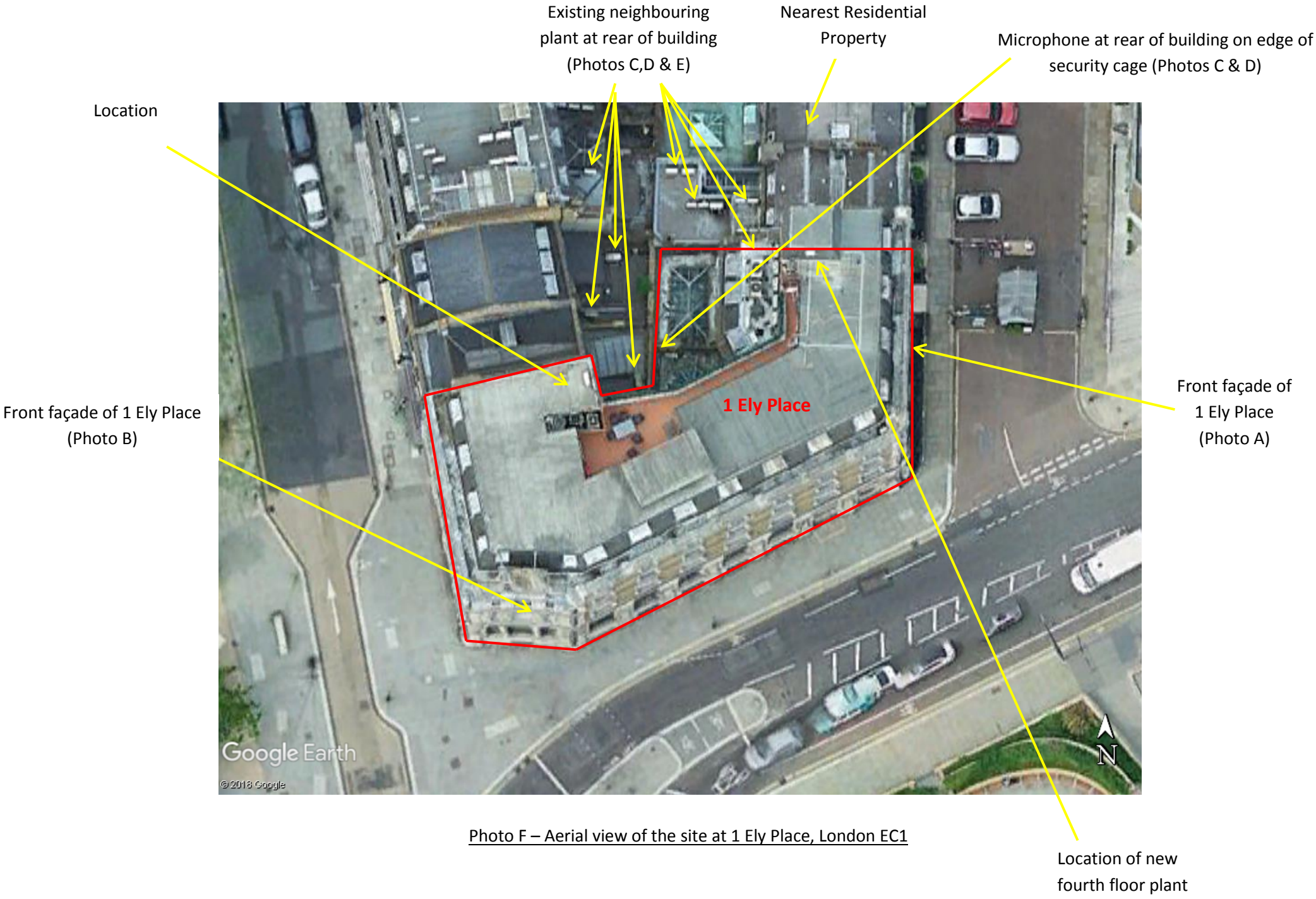
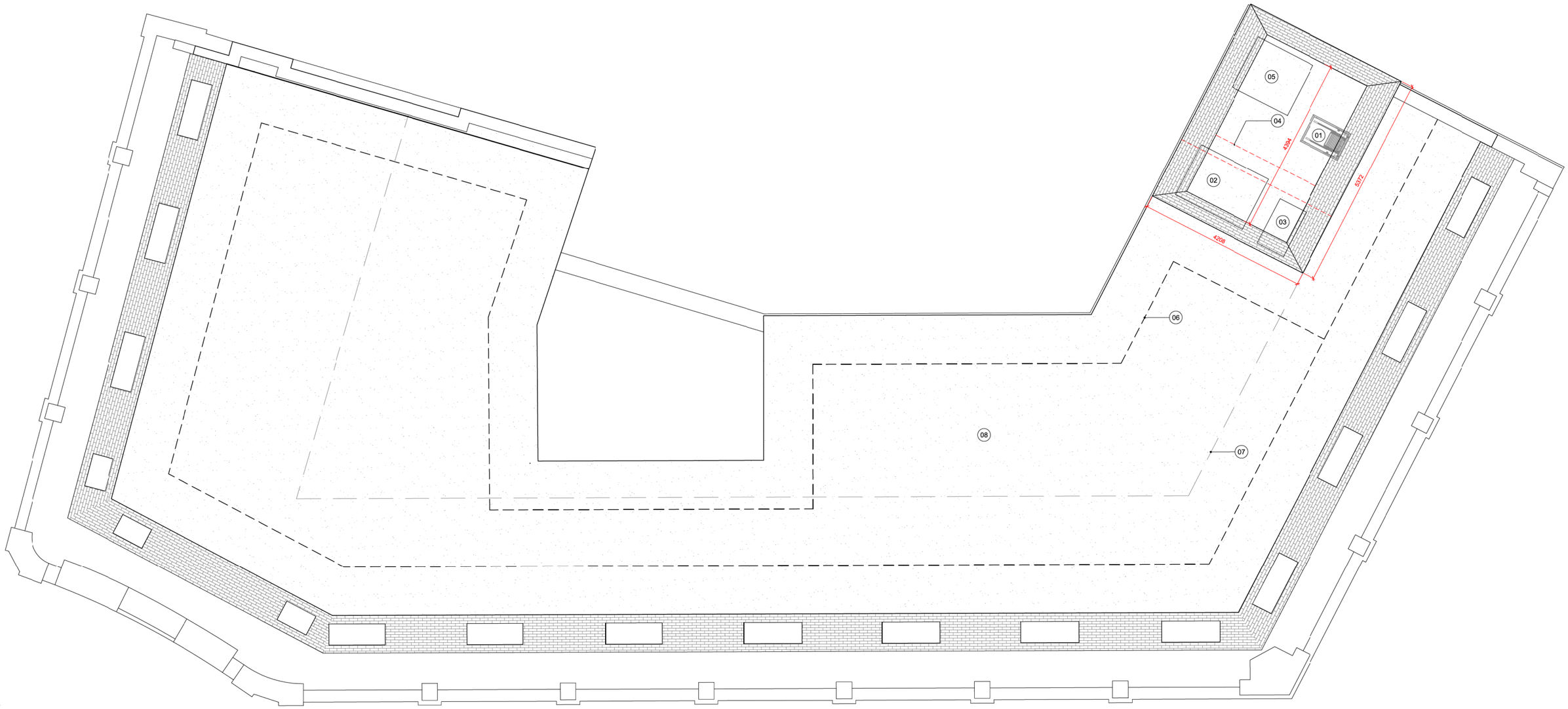


Photo F – Aerial view of the site at 1 Ely Place, London EC1

3.3 Proposals

Extend Floor plate - extend columns
1:8 Occupancy



KEY

01. New retractable ladder in ceiling hatch, with access to roof
02. New MVHR - AHU 1
03. New Fourth Floor - PURY EP450YNWA - 1858mm (h)
04. Existing lift overrun enclosure
05. Existing Lift drive (indicative)
06. New Latchway proposal for roof access and maintenance
07. Approximate Ridge with 150mm fall
08. New roofing felt