RESULTS OF TWO 24-HOUR NOISE LEVEL SURVEYS CARRIED OUT AT THE FRONT AND REAR OF THE BUILDING LOCATED AT 807 HIGH ROAD, TOTTENHAM, LONDON N17 AND A REPORT ON THE NOISE IMPACT OF THE PROPOSED NEW EXTERNAL PLANT AND TO FURTHER ASSESS THE SUITABILITY OF THE PROPERTY FOR USE AS A RESIDENTIAL DWELLING UNDER THE DIRECTIONS OF THE ProPG PLANNING & NOISE GUIDANCE DOCUMENT

Test Engineer : P G H Roberts

Report Author : M G Roberts

Authorised for
Release by : I J Marchant

Client	:	Tottenham Hotspur Football Club/ F3 Architects
Project	:	807 High Road, Tottenham, London N17
Emtec Ref.	:	QF9950/PF6687/RP1B
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Emtec Products Ltd
T: +44(0)20 8848 3031
E: sales@emtecproducts.co.uk
W: emtecproducts.co.uk

Unit L, Turnpike Way
High Wycombe
Buckinghamshire
HP12 3TF

Registered in England No. 3164658 VAT Reg. No. GB675017042

Institute of Acoustics sponsoring organisation

RESULTS OF TWO 24-HOUR NOISE LEVEL SURVEYS CARRIED OUT AT THE FRONT AND REAR OF THE BUILDING LOCATED AT 807 HIGH ROAD, TOTTENHAM, LONDON N17 AND A REPORT ON THE NOISE IMPACT OF THE PROPOSED NEW EXTERNAL PLANT AND TO FURTHER ASSESS THE SUITABILITY OF THE PROPERTY FOR USE AS A RESIDENTIAL DWELLING UNDER THE DIRECTIONS OF THE ProPG PLANNING & NOISE GUIDANCE DOCUMENT

1.0. INTRODUCTION

This report details the results of two 24-hour noise surveys which were carried out at roof level to the front and to the rear of the building located at 807 High Road in Tottenham, London N17. The two surveys were carried out consecutively.

The locations of the microphones were as follows,

- Location A - At roof level at the front edge of the building.
- Location B - On the single storey flat roof at the rear of the building on the boundary with the neighbouring pub beer garden.

The objectives of the survey were as follows:

- To assess the proposal to install a new heat pump unit at ground floor level at the rear of the site.

- To identify the nearest residential and commercial properties that might be affected by noise from this new plant.

- To establish the existing background noise level outside the nearest affected properties.

- To recommend noise limits and any necessary mitigating measures to ensure that the operation of the new plant does not disturb the occupants of the nearest affected properties and meets the planning directives of the local authority with regard to noise.

- To assess the LA_{eq} noise level that exists at the front and rear of the building against the recommended external noise levels laid out in the ProPG Planning and Noise document which outlines limiting noise levels for the change of use of buildings for residential use.

- To assess the noise created by a dental surgery within the development and the acoustic requirements necessary to contain the noise of its operation.

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

2.0. SITE DESCRIPTION

The building located at 807 High Road, Tottenham, is a terraced commercial building. The main front building is three storeys high and is of brick construction with a slate pitched roof. The building fronts onto High Road, Tottenham and the adjacent buildings are similar in construction and are mainly being used as commercial/retail premises.

The front façade of the building can be seen in the attached Photo A.

Behind the main front part of the building there is a single storey, flat roofed extension that occupies the remainder of the site.

To the south of the site there is a public house known as the Bricklayers Arms, which has an open air beer garden at the rear. Above the pub at first and second floor level there are residential flats with windows that overlook the rear of 807 Tottenham High Road. The beer garden and rear façade of the neighbouring public house can be seen in the attached Photos C and D.

An aerial overview of the site can be seen in the attached Photo E.

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 Nos.: 01121378, 01232569
Statistical Analysis Modules:	Built in module capable of computing the percentile levels LA_1, LA_{10}, LA_{50}, LA_{90} and LA_{99} and also the LA_{eq} 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 on the High Road could be heard at the start and end of the survey, so the noise levels measured will include contributions from road vehicles.

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, so the noise levels measured will not include contributions from rail noise.

Construction works were not observed being carried out in the vicinity during the manned periods at the start and end of the survey so the sound levels recorded should be typical of normal daytime background noise levels.

4.0. TEST PROCEDURE

The surveys were conducted during two consecutive, continuous 23/24-hour periods. The survey at location A was from 9:58am on Tuesday the 18th of February 2020 to 8:58am on Wednesday the 19th of February 2020 and the survey at location B was from 9.13am on Wednesday the 19th of February 2020 to 9.13am on Thursday the 20th of February 2020.

Data was continuously acquired throughout the measurement periods 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

Location A - The microphone was mounted on a tripod and positioned above the parapet wall at the front edge of the roof at the front of the building. The microphone was oriented vertically and was approximately 1.5 metres above the second floor of the building. The location of the microphone can be seen on the attached Photos A and B.

Location B - The microphone was mounted onto a tripod and positioned on the south facing boundary on the first floor flat roof at the rear of the building. The microphone was oriented vertically and was approximately 1.5 metres above the level of the flat roof. The location of the microphone can be seen in the attached Photos C and D.

Both of the microphones were connected by low impedance cables to their associated instrumentation which were contained within individual weatherproof housings.

4.2 Weather Conditions

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

Weather daytime: -	Overcast	Weather night time: -	Overcast
Wind daytime: -	Light	Wind night time: -	Light

The microphones were protected throughout the survey by acoustically transparent wind balloons.

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 L_{eq} levels measured over each 15 minute interval throughout the 23/24-hour period, denoted by LA_{eq}, (15 mins), are displayed as bar graphs on the attached Sketches No QF/9950/T1 and -/T3 at the back of this report.

The 'A' Weighted percentile levels measured over each 15 minute interval throughout the 24-hour period, denoted by LA_{10} (15 mins), LA_{50} (15 mins) and LA_{90} (15 mins) are displayed as line graphs on the attached Sketches No QF/9950/T2 and -/T4 at the back of this report.

5.1. Summary of Results

The table QF/9950/D1 below summarises the noise levels taken over the 24-hour period in terms of the maximum and minimum Sound Pressure Levels recorded.

Table QF/9950/D1 – Summary of Maximum and Minimum Noise Levels

	Location	**LA_{eq}**	**LA_{1}**	**LA_{10}**	**LA_{50}**	**LA_{90}**	**LA_{99}**
Minimum	A	62dBA	71dBA	66dBA	58dBA	49dBA	45dBA
	B	45dBA	50dBA	47dBA	44dBA	42dBA	42dBA
Maximum	A	76dBA	89dBA	75dBA	70dBA	64dBA	61dBA
	B	82dBA	92dBA	86dBA	76dBA	72dBA	71dBA

The table QF/9950/D2 below 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/9950/D2 – Minimum LA_{90} Noise Levels – Daytime/Evening and Night time

	Location	**Minimum LA_{90}**
Daytime/Evening (7am to 11pm)	A	60dBA
	B	48dBA
Night Time (11pm to 7am)	A	49dBA
	B	42dBA

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

The local planning authority is the London Borough of Haringey. Haringey Council publishes a Sustainable design and construction supplementary planning document which was adopted in March 2013. Section 7.2 of this document, 'Noise', reads as follows:

> Mechanical systems should only be used as a complement to natural ventilation to ensure a constant standard of indoor air quality. Systems should not create a noise nuisance and should be efficient, where possible including technology to recover heat energy for other uses. Where mechanical systems are used, careful consideration will need to be given to ensure air intakes are positioned appropriately. Mechanical ventilation should be designed to ensure no noise nuisance is caused to occupiers of other properties and that noise disturbance does not affect the property in which ventilation is situated.

Section 7.2 of the same document also stipulates the use of BS 4142:1997 "Method for rating industrial noise affecting mixed residential and industrial areas".

The Mayors Ambient Noise Strategy, under section 4E.11, describes two main goals of industrial noise control:

> …avoiding exceeding desirable absolute noise levels, such as set out in guidelines produced for the World Health Organisation, PPG24 and BS 8233; and avoiding noise which is considered likely to give cause for complaint, as set out in BS 4142:1997.

We propose that to satisfy the criteria of the local authority, any plant, machinery or equipment should not lead to an increase in the existing background noise levels. In order for there to be no increase in ambient noise levels the maximum external noise level, emitted by any plant, machinery or equipment, should be at least 10dB below the lowest existing LA_{90} background noise level during the period of the plants normal operation. This noise level should not be exceeded at a position 1 metre from any neighbouring residential property.

For tonal or intermittent noise, a 5dB correction should be added, leading to a total of 15dB below the existing $LA_{90.}$

5.3. Determination of noise sensitive property design criteria

We believe that the sound produced by the new plant will not be intermittent or contain tones. Based on the local authority's planning requirements outlined above, the new plant should therefore be designed to be 10dB below the minimum existing LA_{90} background noise level during the relevant operational period of the plant.

The lowest recorded LA_{90} noise levels measured during the 24 hour survey period at the back of the building are given in Table QF/9950/D2 above.

It may be possible to run the new plant on a low noise setting at night and any plant should therefore be designed to achieve the following noise levels, if the plant is to be operated on a 24 hour basis,

Location B - 32dBA

and the following noise levels, if operated during the daytime hours of 7am to 11pm.

Location B - 38dBA

The above noise levels should be achieved at 1m from the nearest noise sensitive window.

5.4. Determination of commercial design criteria

The use of the commercial premises surrounding the site consists mostly of offices. It is therefore proposed that the recommendations given in BS8233:2014 and that Table 2 of that standard be considered.

	Good	Reasonable
Open Plan offices: $LA_{eq,T}$	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 45dBA + 10dB = 55dBA.

5.5. Summary of external noise criteria

Based upon the lowest measured LA_{90} background noise levels during the survey and the Council's requirements outlined above we summarise the design rating levels to be adopted for this project in table QF/9950/D3:

Table QF/9950/D3 – recommended design rating levels $L_{Ar,T}$

Type of premises	**Location**	**$L_{Ar,T}$ (24 hour)**	**$L_{Ar,T}$ (7am - 11pm)**
Noise Sensitive	B	32dBA	38dBA
Commercial	B	-	55dBA

The proposed design of the new residential development is shown on the attached drawings No 08-EL-001W(P1); 08-SN-001(P2) and 08-GA-003(P3).

6.0 ASSESSMENT OF THE BUILDING UNDER THE GUIDELINES OF THE ProPG PLANNING AND NOISE DOCUMENT AND ANALYSIS OF NOISE FROM THE ADJACENT PUB

6.1 Assessment of Noise Impinging on the front of the building from traffic noise

The ProPG Planning & Noise Guidance Document gives guidelines to local planning authorities with regard to the suitability of incoming developments onto sites that are exposed to high levels of existing environmental noise such as road traffic, rail or aircraft noise.

The guidance notes establish four different noise risk assessment levels from negligible to high and gives pre-planning application advice to local authorities as to the acceptability of the ambient noise level and the the risk of an adverse effect. The Negligible category would indicate that the site is acceptable from a noise perspective and the Low, Medium and High categories give increasing potential risk assessments.

The average LAeq noise levels taken over the 24 hour noise level survey equate to the following figures:

Time Period	**Measured LAeq (t) (Range of Readings)**	**Noise Category**
Day (07:00-23:00) LAeq (16 hours)	70dBA (76 to 67)	Medium/High (Medium 65-70dBA) (High >70dBA)
Night (23:00-07:00)	66dBA (71 to 62)	Medium (60-70dBA)

The above table shows that the average LA_{eq} over the daytime/evening and the night time periods falls into the Medium/High risk categories. The guidance for High noise levels (in excess of 70dBA) is that there is an increased risk of the development being refused on noise grounds but that the risk may be reduced by following good acoustic design process demonstrated in a detailed Acoustic Design Statement. For Medium noise levels development of the site may be refused unless may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrates that a significant adverse noise impact will be avoided in the finished development.

It is therefore likely that any planning condition imposed will seek to ensure that adequate protection against noise is included in the design of the project to allow good sleeping conditions within the development under the World Health Organisation's Guidelines and the guidance of BS8233:2014.

The building should therefore be designed to reduce the internal noise levels to the World Health Organisation's and BS8233:2014 Guideline levels as follows:-

Indoors: Living Areas: 35dB LAeq(16): daytime/evening (7:00am to 23:00pm) to prevent interference of speech and moderate annoyance.

Bedrooms: 30dB LAeq(8): night time (23:00pm to 7:00am) to prevent sleep disturbance.

Using the maximum external LAeq levels and subtracting the internal noise criteria for the daytime/evening and night time periods the outer shell of the proposed building will require either 76-35dB = 41dB or 71-30dB = 41dB noise reduction for the structure of the building.

The maximum LA1 levels were 84dBA in the daytime/evening period and 72dBA for the night time period. Using these levels and deducting 41dB gives noise levels of 43dBA and 31dBA for the daytime/evening and night time periods. These levels are below the 45dBA maximum level recommended by the WHO.

To achieve a noise reduction of 41dB the outer structure of the building will need to achieve an Rw:50dB noise reduction with a minimum area of windows having an Rw+Ctr:40dB rating. To achieve this level of noise reduction will necessitate the use of special double glazed windows such as 10mm/16mmargon/9.1mm Pilkington Optiphon units.

6.2 Analysis of Noise from the adjacent Public House and it's beer garden

The second 24 hour noise survey was carried out over a period when Tottenham Hotspurs' football team were playing a European cup match against Rb Leipzig FC. As can be seen from the results of this survey the noise level, at the rear of the building, increased markedly from 5pm until 11.30pm and the maximum LAeq and LA_1 noise levels were 82dBA and 92dBA respectively.

The noise from the pub's operation will therefore impinge upon the rear windows of the proposed development and applying the same principles as for the road noise at the front of the building will give a required noise reduction of 82-35dB or 92-45db = 47dB.

This is a higher structural noise reduction than required at the front of the building and would necessitate the use of inner and outer windows giving a similar noise reduction to the rest of the structure. The overall Rw:50dB would have to be achieved by the structure with the windows achieving an Rw+Ctr:47dB noise reduction. This would necessitate secondary glazing inside of the Optiphon double glazing with an airgap of about 100mm between the inner and outer glazing panels.

As this requirement would only apply during high density usage of the Public House, at the time of Tottenham Hotspur home matches, it may be possible to have the inner glazing designed to slide away so that it is not used during normal usage of the pub.

7.0. DISCUSSION OF RESULTS

As part of this report the noise level from a dental surgery that may be located within the development is to be considered and recommendations made as to the control of noise emanating from the surgery so as to ensure no adverse effect on the residential units within the development.

Modern, high speed, dental drills have a reverberant sound pressure level, within small surgery rooms of between 90 and 100dBA. These noise levels vary in their peak frequency but fall within the range of 1KHz and 8KHz. Exposure levels for dentists to these high noise levels are normally limited to less than 15 minutes during a working day in order to ensure no hearing loss damage.

Based upon the high level of noise at higher frequencies the structure around the surgery room should have a noise reduction requirement of 60dB. This would necessitate a continuous, reinforced concrete slab of at least 300mm thickness, walls of solid concrete blockwork and two Rw:35dB doors either side of a suitable lobby as an entrance into the surgery.

Based upon the general proposal to develop the site into a number of residential flats the following statements can therefore be made:

- Any new mechanical plant that is to be located at the rear of the site should be selected and attenuated, if necessary, to achieve an LAeq noise level of no more than 38dBA during the daytime/evening period of 7am to 11pm and no more than 32dBA for night time operation of the plant. These noise levels should be achieved at 1 metre from the nearest neighbouring noise sensitive window.

- The local council may refuse planning permission based upon the ProPG Planning & Noise guidance analysis done in this report with regard to road noise impinging on the front of the building as the analysis shows that the noise environment, at the front of the building, facing on to the High Road, falls into the High/Medium category.

- If the local council are minded to grant planning permission for the residential development then they will certainly impose conditions that require the new building's structure to have at least an Rw:50dB noise reduction with high noise reduction, double glazed windows having a minimum Rw+Ctr:40dB noise reduction.

- The use of the adjacent Public House on home match days of the Tottenham Hotspur football club will necessitate the use of the same type of double glazed windows at the rear of the development together with secondary glazing panels, 100mm inside the double glazed units, which could be designed to slide away at all other times.

- If a dental surgery is to be incorporated into the development adjacent to any residential units then the intermediate structure, between the dental surgery room(s) and the adjacent residential units should have a noise reduction capability of Rw:60dB.

If the above principles are followed the local council should be able to grant planning permission for the development under the current planning directives and allow the requirements of BS4142:2014, BS8233:2014 and the ProPG planning guidance to be met.

Emtec Products Ltd
16th March 2020

APPENDIX 'A'

Raw Data – Noise Survey

18th of February 2020 to 20th of February 2020

EMTEC PRODUCTS LTD.

Project: 807 High Road, Tottenham, London N17 (Location A)
Client: Tottenham Hotspur Football Club/ F3 Architects
Date: 18th to 19th February 2020
Serial No: 01121378

Address	Start Time	LA_{eq}	LE	Lmax	Lmin	LA_{1}	LA_{10}	LA_{50}	LA_{90}	LA_{99}
1	09:58	68	97	88	57	75	70	66	62	59
2	10:13	70	100	89	57	81	72	66	62	58
3	10:28	68	97	79	55	74	70	66	61	56
4	10:43	70	100	93	54	78	71	67	61	56
5	10:58	72	102	94	56	84	72	67	62	58
6	11:13	71	100	99	57	77	71	66	62	58
7	11:28	68	98	88	58	74	70	66	61	59
8	11:43	67	97	88	57	74	70	65	60	58
9	11:58	68	97	82	57	76	71	66	61	58
10	12:13	69	99	87	58	79	71	67	62	60
11	12:28	73	103	101	58	83	71	67	62	60
12	12:43	69	99	87	55	79	72	67	62	57
13	12:58	68	97	86	58	76	70	66	61	59
14	13:13	67	97	81	59	76	70	66	62	60
15	13:28	70	100	88	58	81	71	67	63	60
16	13:43	69	99	89	58	81	70	66	61	59
17	13:58	74	103	96	58	86	71	66	62	59
18	14:13	72	102	96	57	84	71	66	61	58
19	14:28	74	104	100	55	85	71	67	62	57
20	14:43	73	103	96	59	86	71	67	62	60
21	14:58	71	101	97	58	83	72	67	61	59
22	15:13	68	98	81	58	76	71	67	62	60
23	15:28	70	99	87	59	80	72	67	63	60
24	15:43	76	106	101	59	89	74	67	63	60
25	15:58	68	98	89	60	75	71	67	63	61
26	16:13	75	105	97	59	89	72	67	63	61
27	16:28	67	97	88	59	73	70	66	62	60
28	16:43	68	97	87	59	74	70	67	63	60
29	16:58	73	102	92	58	87	71	66	61	59
30	17:13	68	97	84	59	76	70	66	62	60
31	17:28	70	100	93	59	81	71	67	62	60
32	17:43	67	97	84	60	74	70	66	62	61
33	17:58	68	98	85	60	76	71	66	63	61
34	18:13	72	101	95	60	81	72	67	63	60
35	18:28	69	99	90	61	75	72	68	64	61
36	18:43	75	104	100	59	87	73	69	63	60
37	18:58	69	99	86	57	79	72	67	62	59
38	19:13	69	98	85	57	76	72	67	63	58
39	19:28	69	98	84	56	77	71	67	62	57
40	19:43	69	99	89	56	79	71	67	60	58
41	19:58	73	102	95	57	86	73	68	62	59
42	20:13	73	103	95	57	83	75	69	64	60
43	20:28	72	102	92	54	81	75	70	63	58
44	20:43	74	103	94	55	86	74	70	63	57
45	20:58	74	104	98	57	87	75	69	63	59
46	21:13	73	102	93	56	84	74	70	63	57
47	21:28	70	100	78	55	75	73	69	63	58
48	21:43	72	101	93	57	80	73	68	63	59
49	21:58	70	99	81	54	76	73	68	63	57

50	22:13	69	99	84	57	76	73	68	63	60
51	22:28	71	100	92	53	80	72	67	62	56
52	22:43	69	99	86	56	76	72	68	62	57
53	22:58	68	98	85	53	75	72	67	60	55
54	23:13	69	98	81	58	75	72	68	62	60
55	23:28	68	98	77	54	74	71	67	60	55
56	23:43	67	97	76	55	73	71	66	60	57
57	23:58	68	98	93	53	75	71	66	59	55
58	00:13	68	98	91	52	73	71	66	60	53
59	00:28	66	96	76	51	73	70	64	59	53
60	00:43	67	97	79	54	75	70	65	60	57
61	00:58	66	96	87	47	73	69	62	53	49
62	01:13	71	100	99	48	81	69	63	55	50
63	01:28	64	93	80	46	72	68	61	53	48
64	01:43	66	96	88	46	75	67	59	51	48
65	01:58	65	94	76	49	74	68	62	54	50
66	02:13	65	94	83	47	73	68	61	55	50
67	02:28	67	96	92	45	73	67	59	49	47
68	02:43	64	93	75	48	71	68	61	53	50
69	02:58	64	93	79	48	73	67	60	54	50
70	03:13	63	93	78	44	72	67	60	51	45
71	03:28	62	92	78	44	73	66	58	51	47
72	03:43	64	93	78	44	73	67	60	52	45
73	03:58	64	93	80	45	72	68	60	51	46
74	04:13	63	92	76	44	72	67	59	50	46
75	04:28	65	95	88	50	74	68	60	53	51
76	04:43	65	95	76	46	73	69	63	55	48
77	04:58	64	93	76	47	72	68	61	54	49
78	05:13	65	94	79	50	72	69	63	55	52
79	05:28	67	96	81	47	75	70	64	56	49
80	05:43	66	96	75	52	73	70	64	59	55
81	05:58	68	97	82	57	75	71	66	62	59
82	06:13	67	96	81	53	74	70	65	60	56
83	06:28	68	97	81	57	74	70	66	62	59
84	06:43	68	98	82	52	76	71	67	62	57
85	06:58	69	98	87	59	75	71	67	63	60
86	07:13	68	98	81	55	75	71	67	62	56
87	07:28	69	99	84	54	76	72	67	62	58
88	07:43	69	98	85	60	75	72	67	64	61
89	07:58	68	97	82	57	74	71	66	62	59
90	08:13	71	100	93	58	79	71	66	62	59
91	08:28	67	97	78	57	74	70	66	62	59
92	08:43	68	98	79	57	75	71	66	61	59

EMTEC PRODUCTS LTD.

Project: 807 High Road, Tottenham, London N17 (Location B)
Client: Tottenham Hotspur Football Club/ F3 Architects
Date: 19th to 20th February 2020
Serial No.: 01232569

Address	Start Time	LA_{eq}	LE	Lmax	Lmin	LA_{1}	LA_{10}	LA_{50}	LA_{90}	LA_{99}
1	09:13	56	85	88	47	63	55	51	50	49
2	09:28	54	83	80	48	64	54	51	49	49
3	09:43	54	84	75	47	66	54	51	49	49
4	09:58	55	84	75	46	69	53	50	48	48
5	10:13	52	81	70	46	60	52	50	48	48
6	10:28	52	81	65	47	59	54	51	49	49
7	10:43	53	83	71	47	60	55	52	50	49
8	10:58	54	83	75	48	62	55	52	51	50
9	11:13	53	83	74	48	60	55	52	50	50
10	11:28	52	82	62	48	57	54	52	50	50
11	11:43	54	84	63	50	60	56	54	52	52
12	11:58	55	85	70	50	64	57	54	52	52
13	12:13	54	83	78	49	59	55	53	51	50
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15	12:43	52	82	64	48	56	54	52	50	50
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21	14:13	56	86	72	50	66	58	54	52	51
22	14:28	57	86	68	50	63	59	56	54	53
23	14:43	58	87	77	50	65	60	56	53	53
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31	16:43	62	91	75	53	67	64	61	58	57
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33	17:13	71	100	91	59	81	72	68	66	65
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71	02:43	46	76	56	42	52	48	45	44	43
72	02:58	45	75	53	42	50	47	44	43	43
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74	03:28	47	76	62	40	54	49	45	42	42
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76	03:58	47	77	65	42	55	49	46	44	44
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87	06:43	52	82	68	48	56	54	51	49	49
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89	07:13	52	82	70	47	59	54	52	49	49
90	07:28	52	81	65	47	57	54	51	49	48
91	07:43	52	82	67	47	59	54	52	49	49
92	07:58	52	82	66	47	57	53	51	49	49
93	08:13	51	81	62	47	55	53	51	49	49
94	08:28	52	81	63	47	56	53	51	49	49
95	08:43	52	82	66	47	58	55	51	49	49
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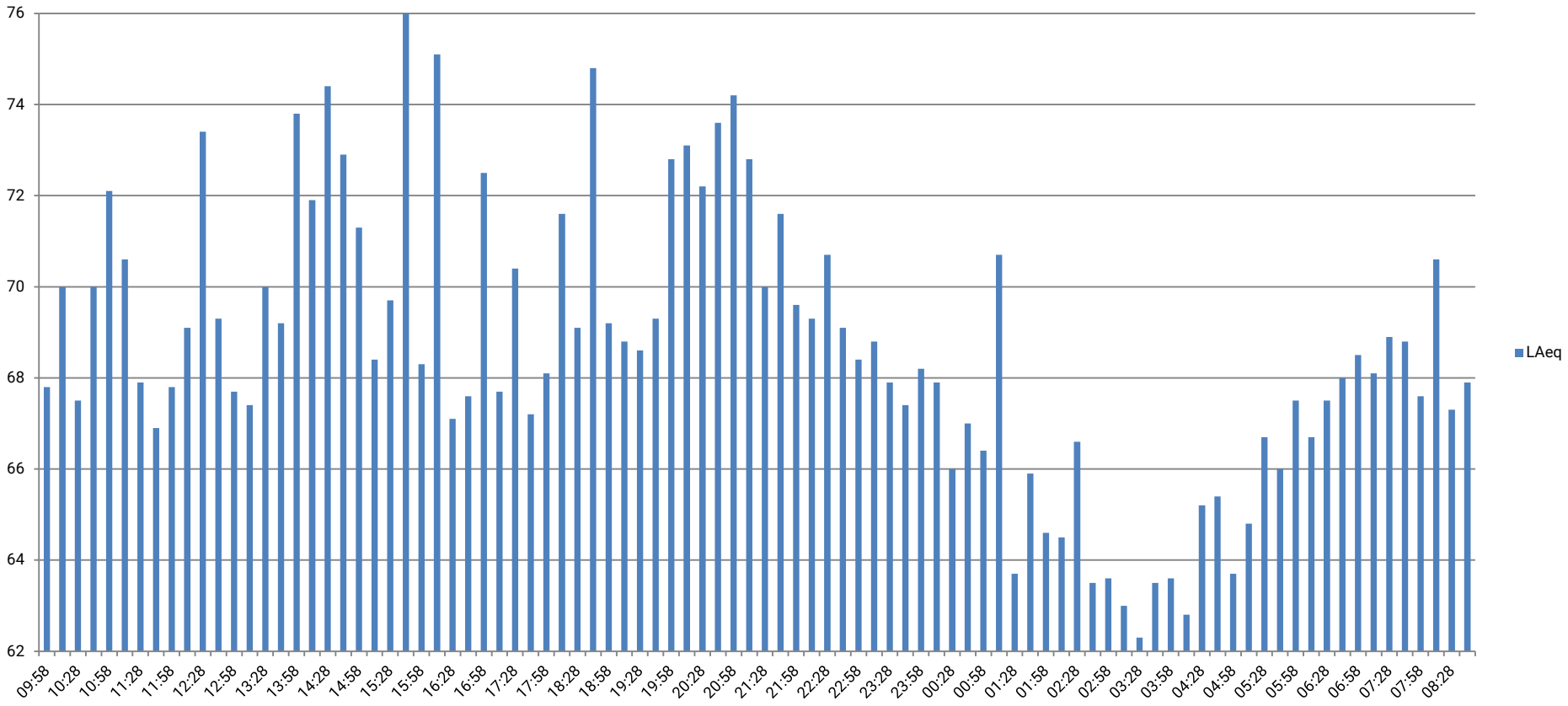
APPENDIX ‘B’

Photos & Drawings



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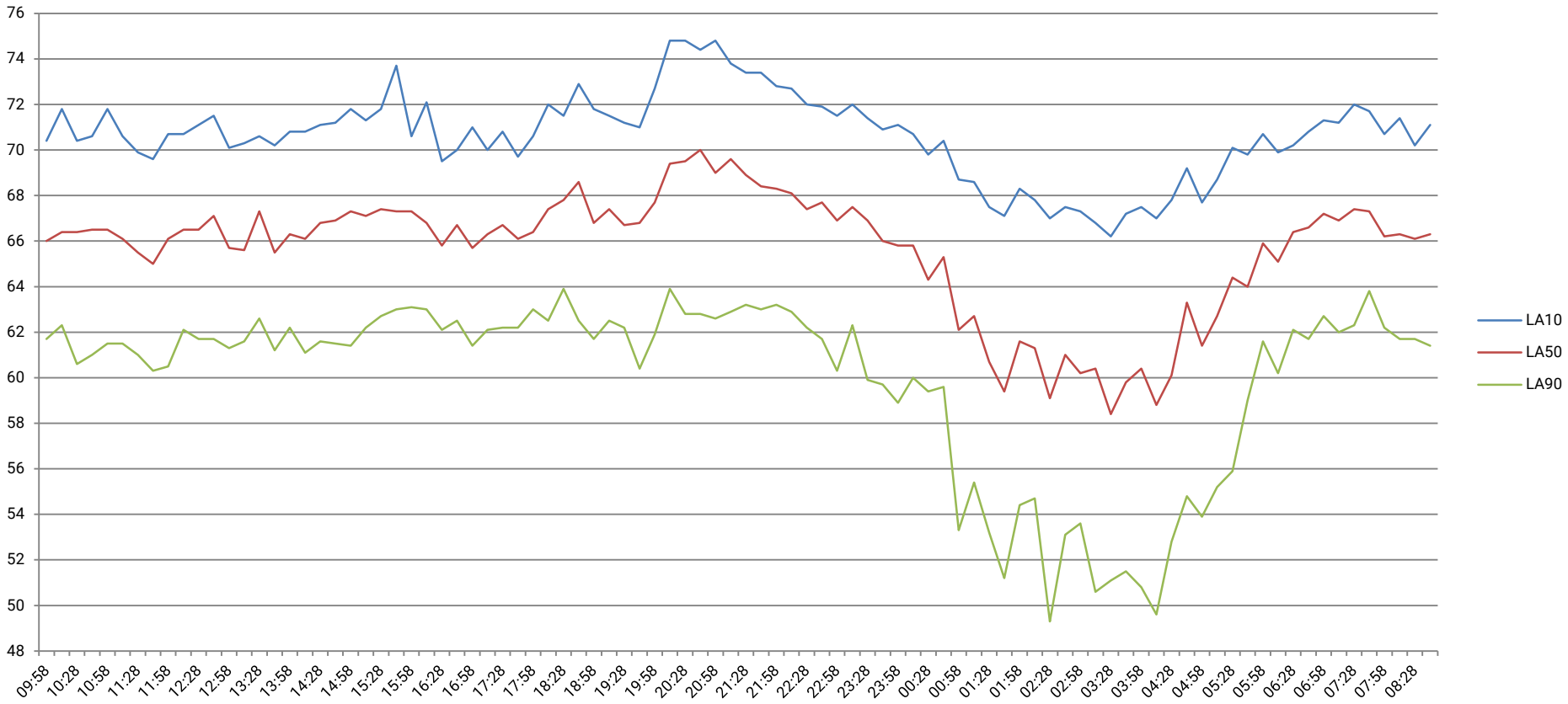
CLIENT: *Tottenham Hotspur Football Club/ F3 Architects*	*PF No: 6687*				*APPROVED BY:* *MGR*	*REVISION*							
PROJECT: 807 High Road, Tottenham, London N17	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* *MGR*	*SKETCH No. QF/9950/T1*							

EMTEC

Unit L, Turnpike Way, High Wycombe,
Buckinghamshire, HP12 3TF
Telephone: 020 8848 3031
www.emtecproducts.co.uk



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CLIENT: *Tottenham Hotspur Football Club/ F3 Architects*	*PF No: 6687*				*APPROVED BY:* *MGR*	*REVISION*							
PROJECT: 807 High Road, Tottenham, London N17	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* *MGR*	*SKETCH No. QF/9950/T2*							

EMTEC

Unit L, Turnpike Way, High Wycombe,
Buckinghamshire, HP12 3TF
Telephone: 020 8848 3031
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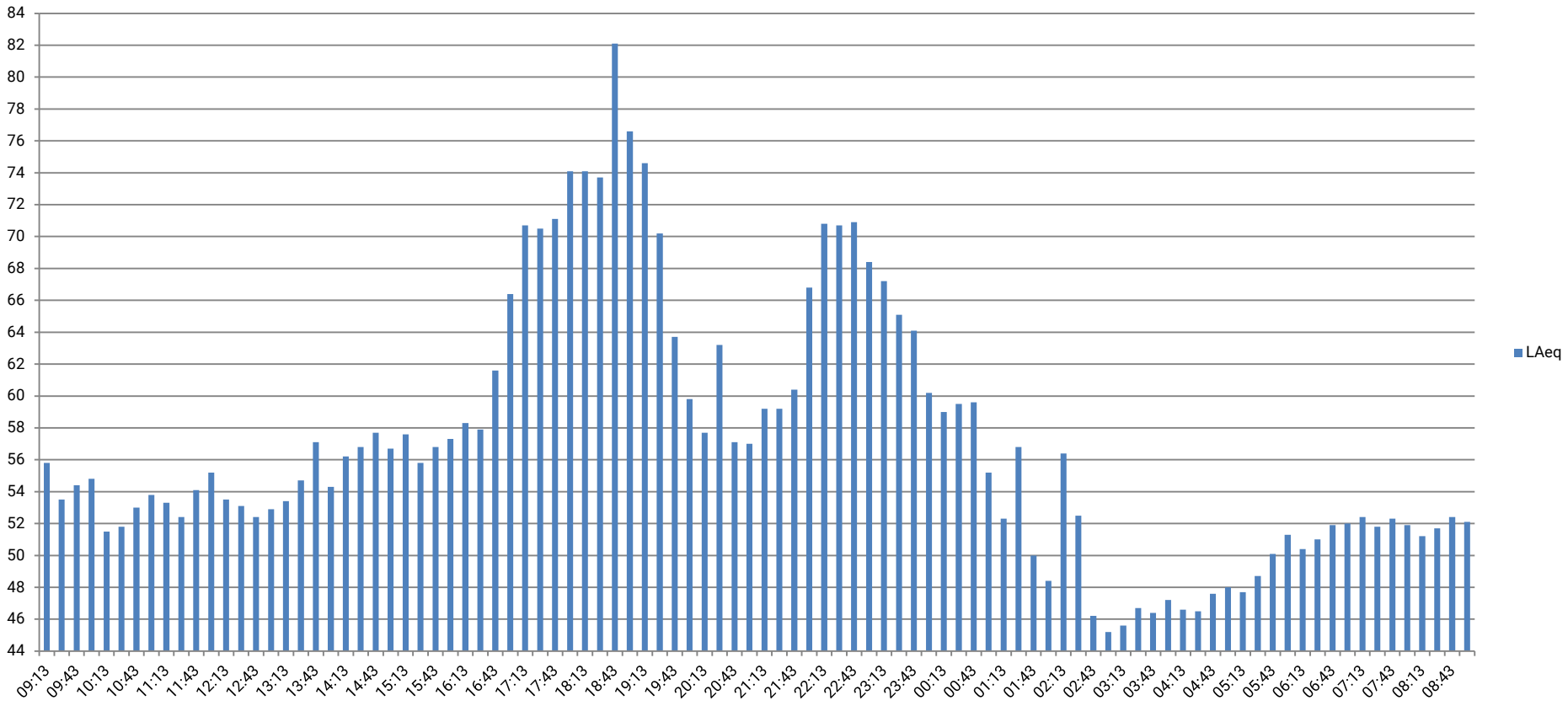

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CLIENT: *Tottenham Hotspur Football Club/ F3 Architects*	*PF No: 6687*				*APPROVED BY:* *MGR*	*REVISION*							
PROJECT: 807 High Road, Tottenham, London N17	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* *MGR*	*SKETCH No. QF/9950/T3*							

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Unit L, Turnpike Way, High Wycombe,
Buckinghamshire, HP12 3TF
Telephone: 020 8848 3031
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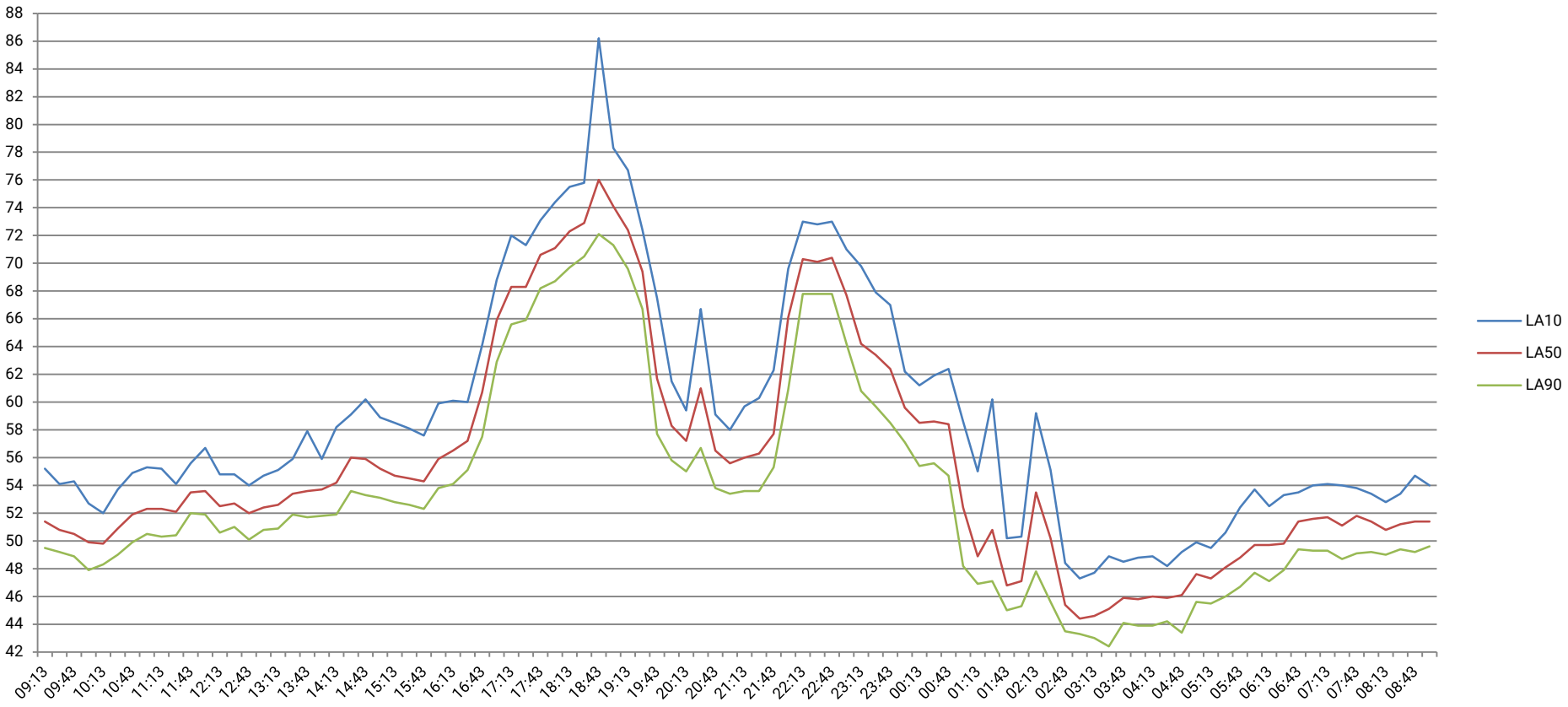

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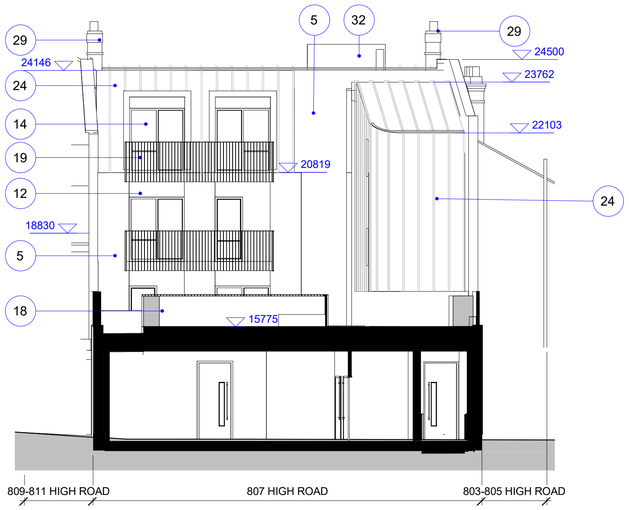
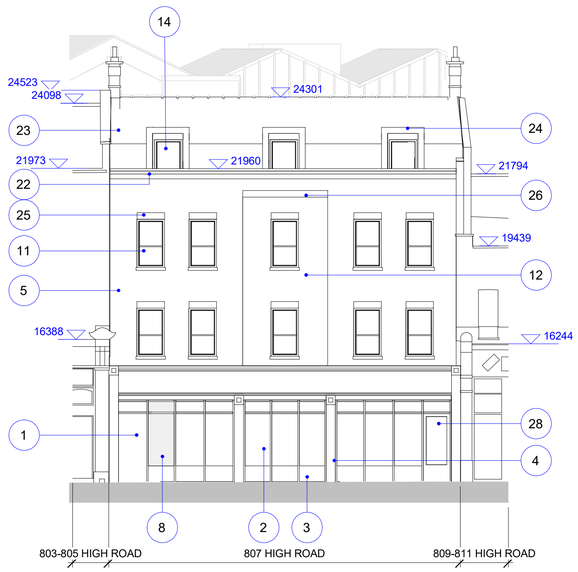
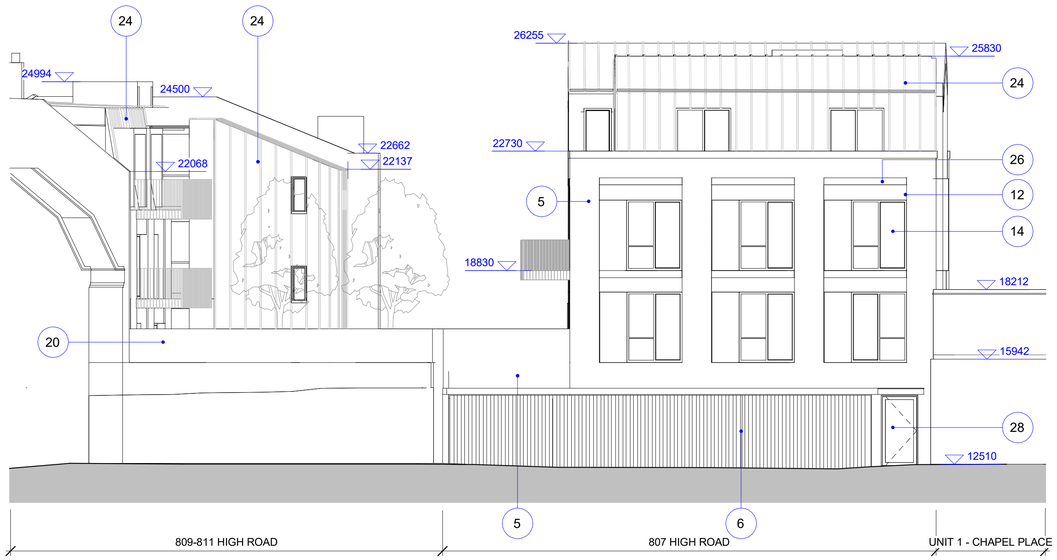
CLIENT: *Tottenham Hotspur Football Club/ F3 Architects*	*PF No: 6687*				*APPROVED BY:* *MGR*	*REVISION*								
PROJECT: 807 High Road, Tottenham, London N17	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* *MGR*	*SKETCH No. QF/9950/T4*								



1 / 0825 West Elevation A
SCALE 1 : 100



2 / 0825 High Road Facade - Proposed
SCALE 1 : 100

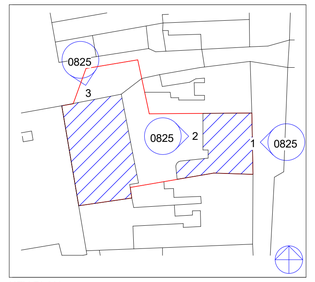


3 / 0825 North Elevation
SCALE 1 : 100

0 1 2 3 4 5 10

MATERIAL KEY

1) Painted timber door
2) Painted timber framed glass shopfront
3) Painted timber stall riser
4) Painted pilaster
5) Brick - similar to 801 High Road
6) Perforated metal panels
7) Refuge area
8) Opaque glass panel
10) PPC metal doors
11) Painted timber frame window
12) Brick recess
13) PPC aluminium window with opaque glazing
14) PPC aluminium window
15) Timber decking
16) Opaque glass panel
18) Planter boxes
19) Painted metal vertical balustrade and handrail
20) Brick guarding
21) Brick parapet
22) Composite stone coping/cornice
23) Slate roof
24) Standing seam metal finish
25) Red brick lintel
26) Brick lintel detail
27) Recess
28) Painted timber door with glass panel
29) New brick chimney feature to match existing finish
30) Concealed gutter
31) Rainwater butt
32) Lift Overrun
33) Openable vent
34) Area for PV
35) Roof access ladder



KEY PLAN

NOTES:

DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS, DOCUMENTS AND CONSULTANT INFORMATION.

CAD DRAWINGS BASED ON SURVEY INFORMATION BY OTHERS; ALL DIMENSIONS TO BE SITE CHECKED.

M&E ITEMS SHOWN INDICATIVELY AND ARE SUBJECT TO FURTHER SITE INVESTIGATIONS AND END USER SPECIFICATION REQUIREMENTS.

INTERNAL FURNITURE LAYOUTS SHOWN FOR INDICATIVE PURPOSES.

LANDSCAPING/PUBLIC REALM SHOWN FOR INDICATIVE PURPOSES ONLY.

No.	DATE	DESCRIPTION	DRN	CHK
P1	06/03/2020	PLANNING	AL	AB

REVISION HISTORY

Architect

ARCHITECTURE + INTERIORS
A: 5 Rochester Mews - London - NW1 9JB
T: 020 7267 8332
W: f3architects.com
E: info@f3architects.com

Health and Safety

Project Name

807 HIGH ROAD
LONDON
N17 8ER

Drawing Title

PROPOSED GA ELEVATION 01

Date	Status
06/03/20	PLANNING

Drawn By	Checked By	Approved By	Scale	Size	Project Ref
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Project	Agent	Zone	Level	Type	Role	Drawing No.	Revision
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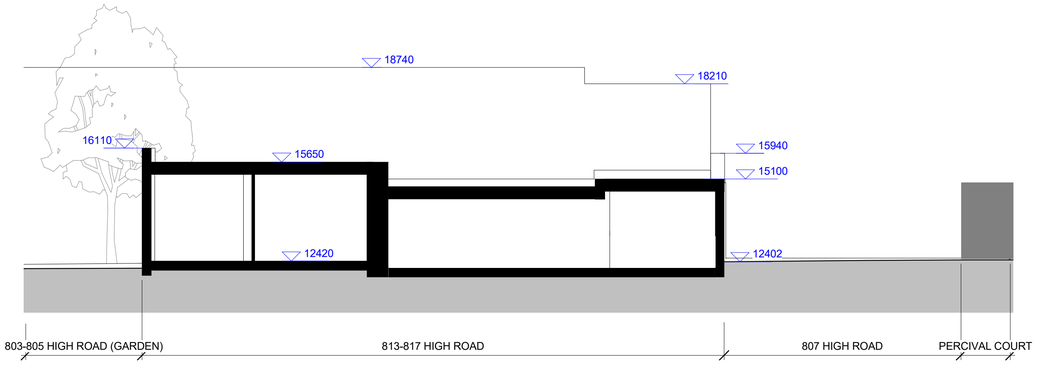
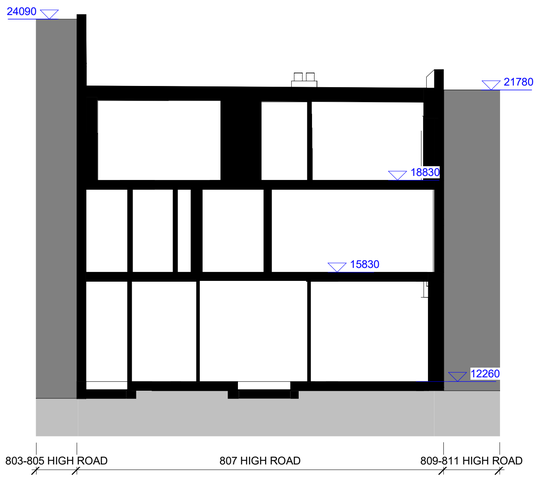


3 / 0815 Existing Section 3
SCALE 1 : 100



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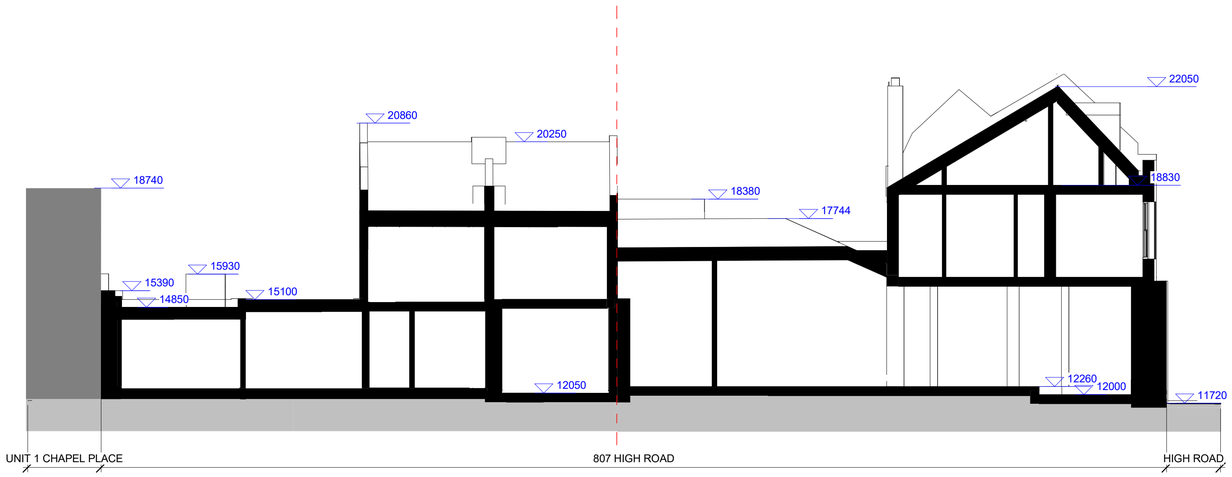

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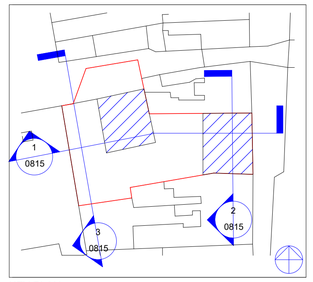

KEY PLAN

NOTES:

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No.	DATE	DESCRIPTION	DRN	CHK
P1	06/03/2020	PLANNING	AL	AB

REVISION HISTORY

Architect

ARCHITECTURE + INTERIORS
A: 5 Rochester Mews - London - NW1 9JB
T: 020 7267 8332
W: f3architects.com
E: info@f3architects.com

Health and Safety

Project Name

807 HIGH ROAD
LONDON
N17 8ER

Drawing Title

EXISTING GA SECTION 01

Date	Status
06/03/20	PLANNING

Drawn By	Checked By	Approved By	Scale	Size	Project Ref
AL	AB	DB	1 : 100	A1	190411

Project	Agent	Zone	Level	Type	Role	Drawing No.	Revision
807HR-1000-ZZ-LZZ-SE-A- 0815							P1

MATERIAL KEY

1) Painted timber door
2) Painted timber framed glass shopfront
3) Painted timber stall riser
4) Painted pilaster
5) Brick - similar to 801 High Road
6) Perforated metal panels
7) Refuge area
8) Opaque glass panel
10) PPC metal doors
11) Painted timber frame window
12) Brick recess
13) PPC aluminium window with opaque glazing
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15) Timber decking
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19) Painted metal vertical balustrade and handrail
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21) Brick parapet
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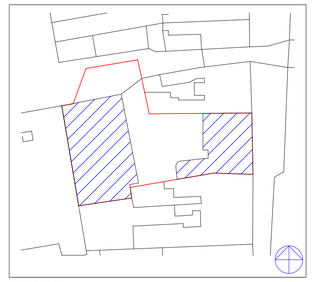
25) Red brick lintel
26) Brick lintel detail
27) Recess
28) Painted timber door with glass panel
29) New brick chimney feature to match existing finish
30) Concealed gutter
31) Rainwater butt
32) Lift Overrun
33) Openable vent
34) Area for PV
35) Roof access ladder



KEY PLAN

NOTES:

DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS, DOCUMENTS AND CONSULTANT INFORMATION.

CAD DRAWINGS BASED ON SURVEY INFORMATION BY OTHERS; ALL DIMENSIONS TO BE SITE CHECKED.

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INTERNAL FURNITURE LAYOUTS SHOWN FOR INDICATIVE PURPOSES.

LANDSCAPING/PUBLIC REALM SHOWN FOR INDICATIVE PURPOSES ONLY.

No.	DATE	DESCRIPTION	DRN	CHK
P1	06/03/2020	PLANNING	AL	AB

REVISION HISTORY

Architect

ARCHITECTURE + INTERIORS

A: 5 Rochester Mews - London - NW1 9JB
T: 020 7267 8332
W: f3architects.com
E: info@f3architects.com

Health and Safety

Project Name

807 HIGH ROAD
LONDON
N17 8ER

Drawing Title

PROPOSED GA PLAN L02

Date	Status
06/03/20	PLANNING

Drawn By	Checked By	Approved By	Scale	Size	Project Ref
AL	AB	DB	1 : 100	A1	190411

Project	Agent	Zone	Level	Type	Role	Drawing No.	Revision
807HR-1000-ZZ-L02-GA-A- 0822							P1

0 1 2 3 4 5 10

NORTH

Position of microphone
(Location A)

Photo A – View of front façade of building located at 807 High Road, Tottenham, London N17

Position of microphone
(Location A)

Photo B – View to the north along High Road, Tottenham from roof level at the front of the building located at 807 High Road, Tottenham, London N17

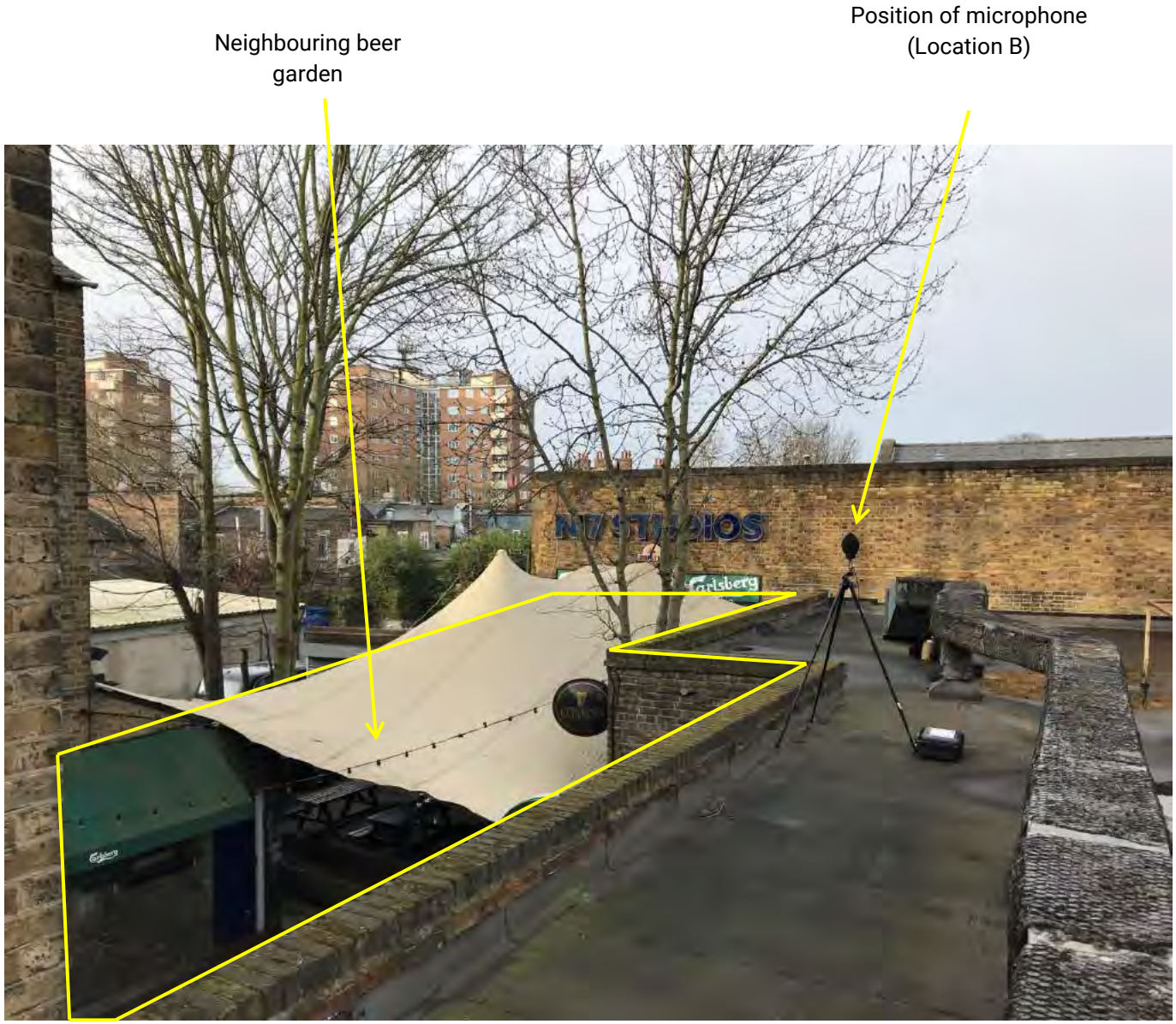

Photo C – View to the south west along boundary at rear of site located 807 High Road, Tottenham, London N17

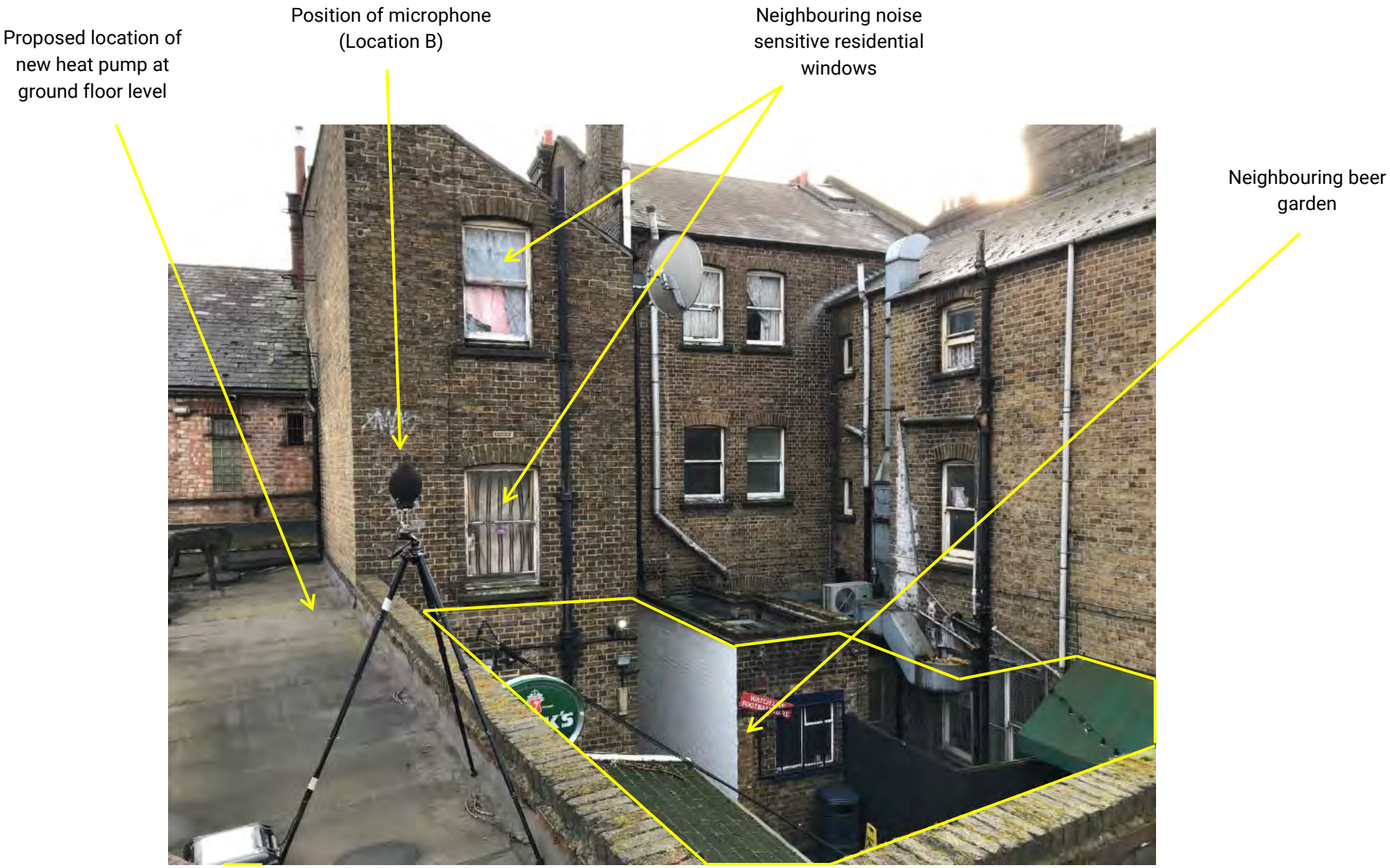

Photo D – View to the south east along boundary at rear of site located 807 High Road, Tottenham, London N17

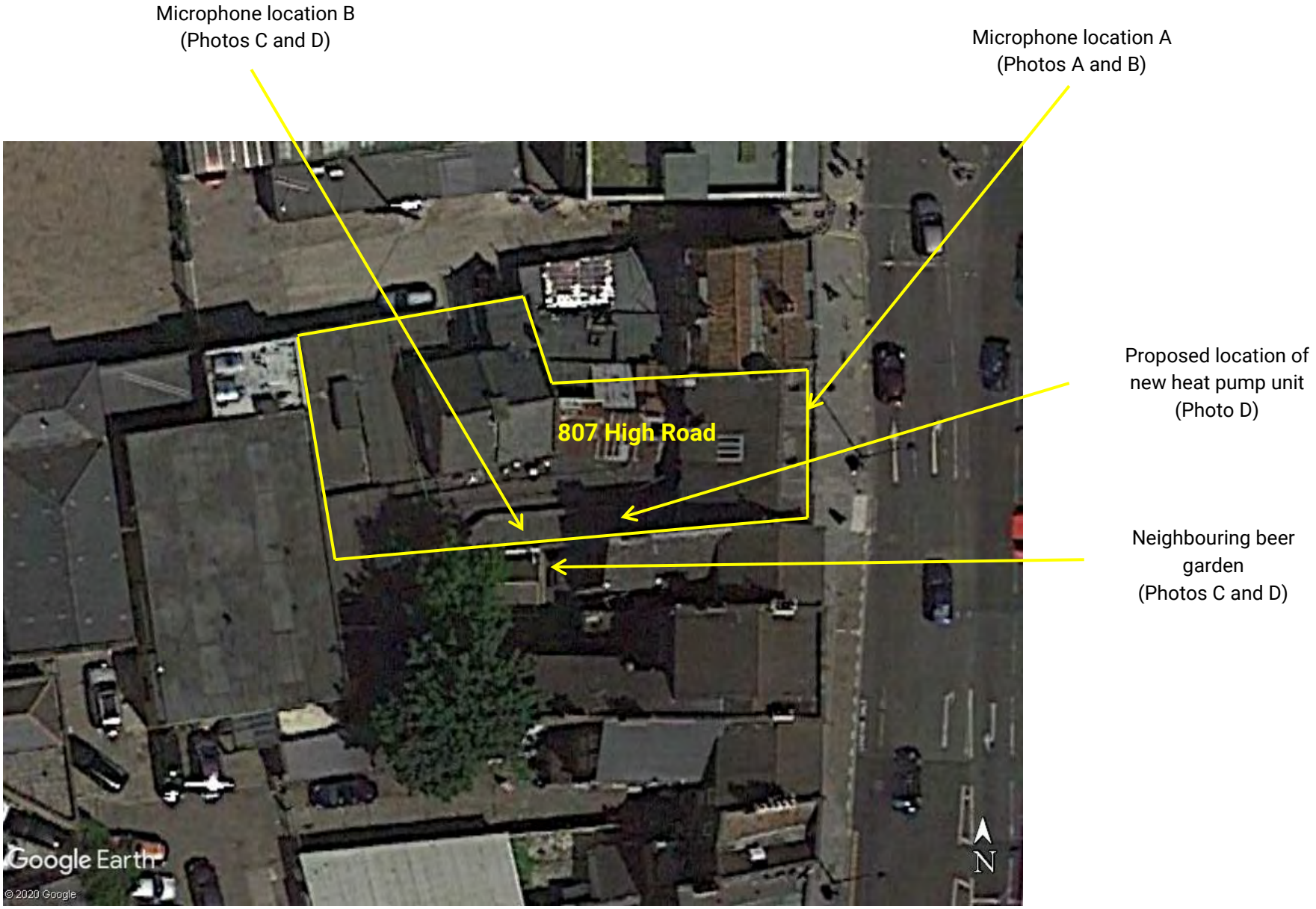

Photo E – Aerial view of site and surrounding located at 807 High Road, Tottenham, London N17