

# Air Quality Impact Assessment

**Site Address:**

12 Harpsfield Broadway,  
Hatfield,  
AL10 9TF

**Client**

SAM P&E Ltd

**Report Reference**

AQIA-2022-000004

**Prepared by**

STM Environmental Consultants Ltd

**Date**

13/06/2022



**CONSULTING GEO-ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS**

Phase 1 Contaminated Land Desk Studies, Geo-Environmental Site Investigations, Environmental Due Diligence, Flood Risk Assessments, Surface Water Management Strategies (SuDS), Ecology, Noise and Air Quality Assessments, Environmental Management Systems, GIS & Data Management Systems

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## 2 DOCUMENT CONTROL



### AIR QUALITY IMPACT ASSESSMENT



<b>Site Address:</b>	12 Harpsfield Broadway, Hatfield, AL10 9TF
<b>Site Coordinates:</b>	521627, 208710
<b>Prepared for:</b>	SAM P&E Ltd
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### 3 DISCLAIMERS

This report and any information or advice which it contains, is provided by STM Environmental Consultants Ltd (STM) and is solely for use by SAM P&E Ltd (Client). Any other party using or placing reliance upon any information contained in this report, do so at their own risk.

STM has exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant when undertaking works of this nature. However, STM gives no warranty, representation or assurance as to the accuracy or completeness of any information, assessments or evaluations presented within this report. Furthermore, STM accepts no liability whatsoever for any loss or damage arising from the interpretation or use of the information contained within this report.

Due to budgetary and physical constraints, sampling and in-situ testing was not possible over the entire site during the ground investigation. Therefore, we can offer no guarantee as to the validity of the data in any areas other than those investigated.

It should also be noted that some of the findings presented in this report are based on information obtained from third parties (i.e. laboratory). Whilst we assume that all information presented is accurate we can offer no guarantee as to the validity.

### 4 ABBREVIATIONS

**Table 1:** Abbreviations used in the report

ABBREVIATION	DESCRIPTION
AADT	Annual average daily traffic
AQS	Air Quality Standard
AQMA	Air Quality Management Area
DEFRA	Department of the Environment, Food and Rural Affairs
GLA	Greater London Authority
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LDF	Local Development Framework
LDV	Light Duty Vehicle
LPA	Local Planning Authority
NO <sub>2</sub>	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
PM <sub>10</sub>	Particulate matter less than 10 microns in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in diameter
TEB	Transport Emission Benchmark
TfL	Transport for London
WHBC	Welwyn Hatfield Borough Council

## 5 EXECUTIVE SUMMARY

SECTION	SUMMARY
<b>Site Location And Size</b>	The site is located at 12 Harpsfield Broadway, Hatfield, AL10 9TF and is centred at national grid reference 521627, 208710. The site has an area of approximately 328m <sup>2</sup> .
<b>Current Use</b>	The site is currently a three-storey building comprising a Bar labelled 'Roti House' on the ground floor and residential flats on the second and third floors.
<b>Proposed Development</b>	The development proposals comprise the extension of the existing building toward the western boundary at ground, first and second floor level and the construction of a new loft. The extended building will contain a bar at ground floor level and 8 residential apartments (2no. studio units and 6no. 2 bedroom units) above.
<b>Baseline Air Quality</b>	Welwyn Hatfield Borough Council currently does not have any declared AQMAs. However, the LPA considered that the proposals have the potential to result in adverse impacts on local air quality during the operational phase.
<b>Construction Phase Dust Risk Assessment</b>	As the proposed development does not include any demolition of existing buildings, the potential construction dust risks associated with it are considered to be negligible.
<b>Operational Phase Risk Assessment</b>	<p>Potential impacts during the operational phase were assessed using the screening criteria provided within the IAQM/EPUK guidance.</p> <p>The proposed development will be car free. An assessment of the additional trips that would be generated by the development was undertaken by TTP Consulting (ref: 2022-4432/R01-RF-PS). The report calculated that the proposed development will generate an additional 37no. total person trips per day. This is considered likely to be very low and any potential air quality impacts, likely to be negligible.</p> <p>An assessment was made of the potential operational exposure of future users of the development to air pollutants. WHCB's monitoring data indicates that pollution levels across the vast majority of the site are below the relevant AQS objectives and that the site can be classified as APEC-A.</p>
<b>Conclusions</b>	On the basis of the assessment carried out, the proposed development is considered unlikely to adversely affect air quality. As such, it is considered to be in compliance with the local and London-wide planning policies and the NPPF.

## 6 INTRODUCTION

### 6.1 Commissioning

STM Environmental Consultants Limited were commissioned by SAM P&E Ltd (Client) to undertake an Air Quality Impact Assessment (AQIA) at a site known as 12 Harfsfield Broadway, Hatfield, AL10 9TF (the Site). The works are required to inform the proposed redevelopment of the Site.

### 6.2 Development Proposal

The development proposals comprise the extension of the existing building toward the western boundary at ground, first and second floor level and the construction of a new loft. The extended building will contain a bar at ground floor level and 8 residential apartments (2no. studio units and 6no. 2 bedroom units) above.

The drawings of the proposed development are available in [Appendix 1](#).

### 6.3 Report Objectives

The aim of this report is to assess the potential impacts of the proposed development on local air quality.

The report should be read in conjunction with the Transport Statement undertaken by TTP Consulting (ref: 2022-4432/R01-RF-PS).

## 7 SITE DESCRIPTION

### 7.1 Site Location and Context

The site is located at 12 Harfsfield Broadway, Hatfield, AL10 9TF and is centred at national grid reference 521627, 208710. The site has an area of approximately 328m<sup>2</sup>.

The site lies within the jurisdiction of Welwyn Hatfield Borough Council in terms of the planning process. Maps showing the location of the site are available in Figure 1 below.

### 7.2 Site Current Use

The site currently consists of a three-storey building comprising a Bar labelled 'Roti House' on the ground floor and residential flats on the second and third floors.

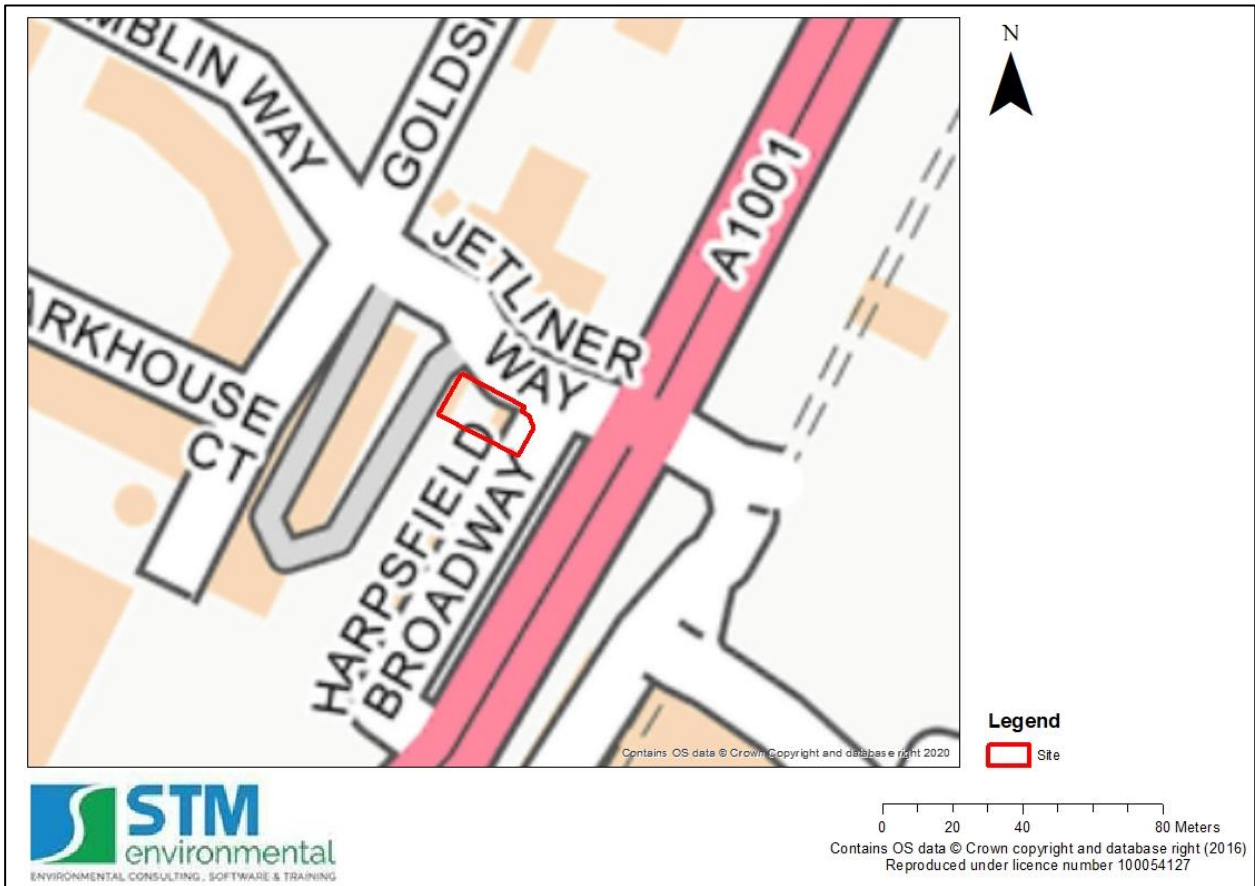
### 7.3 Surrounding Land Uses

A description of current land uses surrounding the boundaries of the site is given below in Table 1 below.

**Table 1: Summary of surrounding land uses**

Boundary	Land Use Description
Northern	Adjacent Road (Jetliner Way), Commercial
Eastern	Adjacent Road (Comet Way/A1001), Shopping Centre
Southern	Commercial, Residential
Western	Car Parking Area, Travelodge

**Figure 1: Maps showing location of site**





## 8 LEGISLATIVE CONTEXT

### 8.1 Legislative Context

#### 8.1.1 European Directives

Air quality standards are set in European Union (EU) Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe and the Fourth Daughter Directive<sup>2</sup> (2004/107/EC). These Directives require all Member States to undertake air quality assessment, and to report the findings to the European Commission on an annual basis and also make the information available to the public. The Directives set 'limit values', 'target values' and 'long-term objectives' for ambient concentrations of pollutants.

#### 8.1.2 Environment Act 1995

Part IV of the Environment Act 1995 sets provisions for protecting air quality in the UK and for local air quality management. It requires the Secretary of State to publish a national Air Quality Strategy and established the system of local air quality management (LAQM), for the designation of air quality management areas. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland was first published in March 1997. The Strategy established objectives for eight key air pollutants.

Section 82 of the Environment Act 1995 provides that every local authority shall review the air quality within its area, both at the present time and the likely future air quality. Section 83 requires local authorities to designate an air quality management area where air quality objectives are not being achieved, or are not likely to be achieved within the relevant period, as set out in the Air Quality (England) Regulations 2000 Regulations. Once an area has been designated Section 84 requires the local authority to carry out an assessment and then to develop an Action Plan for the air quality management area that details the measures, they intend to take to reduce air pollution.

Currently, over 700 active AQMAs have been designated across UK local authorities, the majority for Nitrogen Dioxide (NO<sub>2</sub>). Action Plans have been put in place to address air quality, including any exceedances. Local Authorities are expected to report on NO<sub>2</sub>, PM<sub>10</sub> and SO<sub>2</sub> as well as progress with the Action Plans in Annual Status Reports (ASRs). Government does not expect local authorities to report annually on Benzene, 1, 3-butadiene, Carbon Monoxide and Lead as objectives for these pollutants have been met for several years and are well below limit values.

In addition to the objectives set in Regulations, Local Authorities are expected to work towards reducing emissions and concentrations of PM<sub>2.5</sub>.

#### 8.1.3 Air Quality (England) Regulations 2000

The Air Quality (England) Regulations 2000, as amended by the Air Quality (England) (Amendment) Regulations 2002 set out air quality objectives (i.e. maximum concentrations or limit values) for key pollutants as well as attainment dates for meeting the objectives.

#### 8.1.4 Air Quality (Standards) Regulations 2010

The provisions of the Air Quality Directive and Fourth Daughter Directive were transposed by the Air Quality Standards Regulations 2010 in England, the Air Quality Standards (Scotland) Regulations 2010 in Scotland, the Air Quality Standards (Wales) Regulations 2010 in Wales and the Air Quality Standards Regulations (Northern Ireland) 2017. All the provisions made by the Directives are therefore incorporated into UK legislation. The Air Quality Objectives are listed in Table 2 below.

**Table 2: Air Quality Objectives**

Pollutant	Air Quality Objective		Deadline Date	Status
	Concentration (ug/m <sup>3</sup> )	Measured As		
Benzene	16.25	Running Annual Mean	31.02.2003	Objective met
	5.0	Annual Mean	31.12.2010	
1,3 Butadiene	2.25	Running Annual Mean	31.12.2003	Objective met
Carbon monoxide	10.0	Maximum daily running 8-hour mean	31.12.2003	Objective met
Lead	0.5	Annual Mean	31.12.2004	Objective met
	0.25	Annual Mean	31.12.2008	
Nitrogen Dioxide (NO <sub>2</sub> )	200 (not to be exceeded more than 18 times a year)	1 hour mean	31.12.2005	Objective not met
	40	Annual mean	31.12.2005	
Particles (PM <sub>10</sub> )	50 (not to be exceeded more than 35 times a year)	24 hour mean	31.12.2004	Objective not met
	40	Annual mean	31.12.2004	
Sulphur Dioxide (SO <sub>2</sub> )	350 (not to be exceeded more than 24 times a year)	1 hour mean	31.12.2004	Objective not met
	125 (not to be exceeded more than 3 times a year)	24 hour mean	31.12.2004	
	266 (not to be exceeded more than 35 times a year)	15 minute mean	31.12.2005	

### 8.1.5 Environmental Permitting (England and Wales) Regulations (2010)

Industrial processes which may range from large industrial plant to dry cleaners and paint spraying workshops are regulated by the Environment Agency (Part A1 processes) and the borough (Part A2 and Part B processes). The planning regime must assume that the permitting regime will ensure the processes comply with their permits and the Act. The planning regime can, however consider whether a land use is appropriate and it must consider the exposure to pollutants. For developments requiring planning applications this is done at the planning application stage, and for existing processes it is an ongoing review through Air Quality Action Planning.

### 8.1.6 Section 79 of Part III of the Environmental Protection Act (1990)

Section 79 of Part III of the Environmental Protection Act (1990) is used by Local Authorities to control dust, smoke and fumes emanating from premises such as construction and other sites that are not regulated under the Environmental Permitting Regulations. In order for an Authority to be able to enforcement the legislation, the dust smoke or fumes must be prejudicial to health or constitute a statutory nuisance.

## 9 POLICY CONTEXT

### 9.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) The National Planning Policy Framework sets out national planning policies and principles for England and how these are expected to be applied. The Framework includes specific policies in relation to air quality and air quality management areas. It states that:

"Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan."

To support the Framework, [planning practice guidance on air quality](#) has been published which provides guiding principles on how planning should take account of the impact of new development on air quality.

### 9.2 Local Planning Policy

#### 9.2.1 Welwyn Hatfield Borough Council District Plan

The District Plan (2005) is the current adopted Local Plan which provides a framework for planning decisions in the borough. The majority of the policies were saved in April 2008. The New Local Plan (2022-2032) will replace the District Plan saved polices.

Policy R18 is the main policy governing air quality and states the following:

#### **Policy R18 – Air Quality**


The Council will have regard to the potential effects of a development on local air quality when determining planning applications. Consideration will be given to both the operational characteristics of the development and to the traffic generated by it. Any development within areas designated as Air Quality Management Areas must have regard to guidelines for ensuring air quality is maintained at acceptable levels as set out in the Air Quality Strategy.

The maintenance of high air quality is a major factor affecting quality of life. Major developments, road related development, traffic levels and some types of industry can increase emissions which reduce air quality. The Environment Act 1995 places a duty on local authorities to review and assess air quality in their districts. Those areas that are expected to exceed national guidelines in the year 2005 will be deemed Air Quality Management Areas (AQMAs) and the local authority must devise a strategy to reduce pollution concentrations. The review is underway in Welwyn Hatfield District, but it is unlikely that any AQMAs will be identified. However, provision is made in the following policy to cover the possibility.

#### 9.2.2 Welwyn Hatfield Borough Council Action Plan 2018-2021

The key priorities for Welwyn Hatfield are outlined in the Business Plan (2020-21) for 2018-21. Each year, an Action Plan is published to support 5no. priorities; 'our community', 'our environment', 'our housing', 'our economy', and 'our council'.

Within the 'Our Environment' priority, the following procedures to help improve the local air quality was highlighted:

-  Review our current air quality monitoring programme to make recommendations for changing the number of pollutants monitored or the location of the monitoring

- Deliver an air quality project to educate and raise local awareness of the issues associated with poor air quality in the borough

## 10 SUMMARY OF BASELINE CONDITIONS

### 10.1 Air Quality Management Area

Welwyn Hatfield Borough Council (WHBC) currently does not have any declared AQMAs.

### 10.2 Air Quality Monitoring

Welwyn Hatfield Borough Council (WHBC) undertakes monitoring of pollutant concentrations using continuous and periodic techniques throughout the borough.

A review of the most recent Air Quality Annual Status Report (2021) indicated 2no. operational monitoring stations determining the concentrations of NO<sub>2</sub> and PM<sub>2.5</sub>. The automatic monitoring station for NO<sub>2</sub> (WHNOX- West View) is located approximately 841m to the north east of the proposed development site. The automatic monitoring results for 2020 indicate an annual mean concentration of 21µg/m<sup>3</sup> for NO<sub>2</sub>, which is significantly below the Air Quality Objective (AQO) of 40µg/m<sup>3</sup>.

The recorded annual mean PM<sub>2.5</sub> concentration at the automatic monitoring station WHBAM (Great North Rd/A1000) is located approximately 1.69km to the north east of the proposed development site. The continuous monitoring results for 2020 indicate an annual mean concentration of 9µg/m<sup>3</sup> for PM<sub>2.5</sub>, which is significantly below the Air Quality Objective (AQO) of 25µg/m<sup>3</sup>.

WHBC Council carries out non-automatic monitoring of NO<sub>2</sub> at 51no. locations. The closest 2no. stations is located at West View, Hatfield (WH26, WH27), approximately 710m and 736m north east of the proposed development.

During 2020, the annual mean NO<sub>2</sub> concentrations at WH26 and WH27 were 35.1µg/m<sup>3</sup> and 26.2 µg/m<sup>3</sup> respectively, which falls below the AQO of 40µg/m<sup>3</sup>. When compared to 2019, an annual average concentration of 48.g/m<sup>3</sup> was recorded for the WH26 station, showing a steep improvement in NO<sub>2</sub>. A summary table is presented in Table 3 below.

**Table 3: Summary of the closest monitoring stations.**

Site ID	Address	Monitoring Type	Concentration of PM <sub>2.5</sub> in 2020 (µg/m <sup>3</sup> )	Concentration of NO <sub>2</sub> in 2020 (µg/m <sup>3</sup> )	Distance and Direction from Site
WHNOX	West View	Automatic	-	21	841m NE
WHBAM	Great North Rd/A1000	Automatic	9	-	1.69km NE
WH26	West View, Hatfield	Non-Automatic	-	35.1	710m NE
WH27	West View, Hatfield	Non-Automatic	-	26.2	736m NE

### 10.3 Background Pollutant Concentrations

DEFRA has made available [modelled background concentration maps](#) for a reference year and projected future years for a range of pollutants including oxides of nitrogen (NO<sub>x</sub>), nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>).

The definition of the “background concentration” is the concentration that would remain if all the local sources of pollutants (i.e. roads, industrial emissions, chimneys) were removed, leaving only pollutants that are derived from sources that are outside of the district.

These indicate that the NO<sub>2</sub> and PM<sub>2.5</sub> concentrations at the site are 16.4µg/m<sup>3</sup> and 10.6µg/m<sup>3</sup> respectively. These values are projected to reduce to 12.1µg/m<sup>3</sup>.and 10.4µg/m<sup>3</sup> respectively in (YEAR).

## 11 CONSTRUCTION PHASE DUST RISK ASSESSMENT

As the proposed development will not involve any demolition, any dust risk associated with the construction phase is considered to be negligible.

## 12 OPERATIONAL PHASE IMPACTS

### 12.1 Impacts of Increase in Road Traffic Vehicular Movements on Local Air Quality

Given that the proposed development will introduce a total of 6no. residential units, it could result in an increase in vehicle movements in the area which may impact upon local air quality. This potential impact was assessed using guidance contained in the document entitled 'Land-Use Planning & Development Control: Planning for Air Quality' by Institute of Air Quality Management and Environmental Protection UK (IAQM/EPUK).

The document suggests a two-stage approach with the first stage being intended to screen out smaller development and/ or developments where impacts can be considered to have insignificant effects. If the answers to any of the standard questions apply then it is necessary to proceed to stage 2.

The second stage relates to specific details regarding the proposed development and the likelihood of air quality impacts. Again, standard questions are asked and depending on the answers to these, a further more detailed assessment may or may not be required.

A summary of the questions and responses to the Stage 1 and Stage 2 standard questions is given in the tables below.

**Table 4: Summary of Results Stage 1 Operational Air Quality Impact Assessment**

Question/Criteria	Answer	Comments	Next Step
Does the proposed development involve 10 or more residential units or a site area of more than 0.5ha?	No.	It involves 6no. new residential units	No Further Action.
Does the proposed development involve more than 1,000 m <sup>2</sup> of floor space for all other uses or a site area greater than 1ha	No.	It involves 407m <sup>2</sup> of floor space	No Further Action.
Will the development have more than 10 parking spaces	No.	The scheme will be car free.	No Further Action.

**Table 5: Summary of Results Stage 2 Operational Air Quality Impact Assessment**

Question/Criteria	Answer	Next Step
Will the development cause a change of LDV flows of: - more than 100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA - more than 500 AADT elsewhere.	No.	No Further Action.
Will the development cause a change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.	No.	No Further Action.

Question/Criteria	Answer	Next Step
Will the development require realignment of roads where the change is 5m or more and the road is within an AQMA	No.	No Further Action.
Will the development require the introduction of a new junction or removal of an existing junction near to relevant receptors?	No.	No Further Action.

Based on the information available to date and based on the IAQM/EPUK guidance, the air quality impacts resulting from any increase in vehicles movements are likely to be negligible and therefore no further assessment is required.

An assessment of the additional trips that would be generated by the development was undertaken by TTP Consulting (ref: 2022-4432/R01-RF-PS). The report assumed that the trip generation of the existing HMO is equivalent to 2no. apartments, so the increase in trips to and from the site had been calculated for 6no. apartments. The report calculated that the proposed development will generate an additional 6.226 trip rate per dwelling and a combined 37no. total person trips per day for all 6no. apartments. This is considered likely to be very low and any potential air quality impacts, likely to be negligible.

## 12.2 Future Exposure

There is a potential for future residents to be exposed to exceedances of the annual mean AQS objective for NO<sub>2</sub> as a result of road traffic exhaust emissions from surrounding busy roads.

WHBC continuous monitoring station situated 841m to the north east of the site recorded an annual average concentration of 21µg/m<sup>3</sup> for NO<sub>2</sub> in 2020. Additionally, 2no. non-automatic monitoring stations (WH26 & WH27) situated 736m NE and 710m NE along the adjacent A1001 recorded an annual average concentration of 35.1µg/m<sup>3</sup> and 26.2 µg/m<sup>3</sup> respectively.

The average concentrations of NO<sub>2</sub> at the site would therefore be greater than 5% below the annual mean AQO. Therefore, the site falls into the APEC – A category in accordance with the London Councils Air Quality Guidance developed by the London Air Pollution Planning and the Local Environment (APPLE) working group (see Table 6 below). As such there should be no air quality grounds for refusal; however, mitigation of any emissions should be considered.

**Table 6: Air Pollution Exposure Criteria (APEC)**

Category	Applicable Range Nitrogen Dioxide Annual Mean	Applicable Range PM10	Recommendation
APEC - A	Below 5% of the annual mean AQO	Annual Mean: > 5% below national objective 24 hr: > 1-day less than national objective	No air quality grounds for refusal; however mitigation of any emissions should be considered
APEC - B	Between 5% below or above the annual mean AQO	Annual Mean: Between 5% above or below national objective 24 hr: Between 1-day above or below national objective.	May not be sufficient air quality grounds for refusal, however appropriate mitigation must be considered e.g. maximise distance from pollutant source, proven ventilation systems, parking considerations, winter gardens, internal layout considered and internal pollutant emissions minimised
APEC - C	Above 5% of the annual mean AQO	Annual Mean: > 5% above national objective 24 hr: > 1-day more than national objective.	Refusal on air quality grounds should be anticipated, unless the LA has a specific policy enabling such land use and ensure best endeavours to reduce exposure are incorporated. Worker exposure in commercial/industrial land uses should be considered further. Mitigation measures must be presented with

Category	Applicable Range Nitrogen Dioxide Annual Mean	Applicable Range PM10	Recommendation
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air quality assessment, detailing anticipated outcomes of mitigation measures

## 13 AIR QUALITY MITIGATION MEASURES

### 13.1 Construction Phase Measures

The risks associated with potential construction phase dust impacts were considered to be low. The Mayor of London's Control of Dust and Emissions During Construction and Demolition SPG provides examples of measures that can be taken to reduce the potential construction phase dust impacts. The measures outlined include the following:

- Good site management – ensuring that the site is responsibly managed during the demolition and construction phases of the development. Involving stakeholders in planning and ensuring a responsible person can be contacted on site at all times.
- Good site layout - ensuring that dust generating activities are as much as possible kept away from sensitive receptors and installing solid screens or barriers around dust generating activities.
- Good site maintenance – Regular checks of buildings within 100m of the site boundary should be carried out to check for soiling due to dust. Regularly cleaning hoardings, fencing, barriers and scaffolding using wet methods. Implementing real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly.
- Preventing spillages
- Reducing emissions from site vehicles - All vehicles associated with the demolition / construction should comply with the standards of the London Low Emission Zone. Keeping vehicle idling to a minimum.
- Planning Logistics to avoid congestions and delays
- Development of workplace travel plans which aim to reduce the emissions from workers and visitors travelling to and from the site.
- Use of renewable, mains or battery powered plant items
- Avoiding where possible, cutting, grinding and sawing by using prefabricated materials
- Use best available techniques in accordance with the Process Guidance note PG 3/16 (04)12 if intending on bringing mobile crushers onto the site.
- Avoid bonfires and burning of waste materials.
- Wash and clean vehicles – in particular wheels – before leaving the site.
- Ensure that hard surfaces or paving are used for all haul routes, even if routes are temporary.
- All vehicles carrying dusty materials should be securely covered before leaving the site.
- Keep an accurate log of complaints from the public, and the measures taken to address any complaints, where they were required
- Consider if monitoring of PM<sub>10</sub> is necessary on site or at location of sensitive receptors.

The above list and the SPG will be reviewed prior to the commencement of construction works and if required a Construction Environmental Management Plan, will be implemented.

### 13.2 Operational Phase Measures

As described above, based on the Council's monitoring results for NO<sub>2</sub>, the Site is classified as APEC – A, which indicates that the Site is considered suitable for residential use without the requirement for mitigation measures.

## 14 CONCLUSIONS

STM was instructed by SAM P&E Ltd to prepare an Air Quality Impact Assessment for a proposed development located at 12 Harpsfield Broadway, Hatfield, AL10 9TF in Welwyn Hatfield. The

assessment was required to support a planning application for the development of additional 2no. storeys along the western boundary and conversion of flats to form a bar on the ground floor and 6no. residential units above.

Welwyn Hatfield Borough Council currently does not have any declared AQMAs. Potential impacts during the construction and operational phases of the proposed scheme were assessed against the screening criteria provided within the IAQM/EPUK guidance.

As the proposed development does not include any demolition of existing buildings, the potential dust risks are considered to be Low.

As the proposed development is a car free development, the number of additional vehicle trips anticipated to be generated by the proposals are considered to be very low and the potential air quality impacts are predicted to be negligible.

An assessment was made of the potential exposure of future users of the development to air pollutants. Welwyn Hatfield Borough Council monitoring results indicate that the site can be classified as APEC A. As such, the location is considered to be suitable for proposed residential use without the requirement for air quality mitigation measures.

On this basis we consider the development to be in compliance with the local and London-wide planning policies and the NPPF.

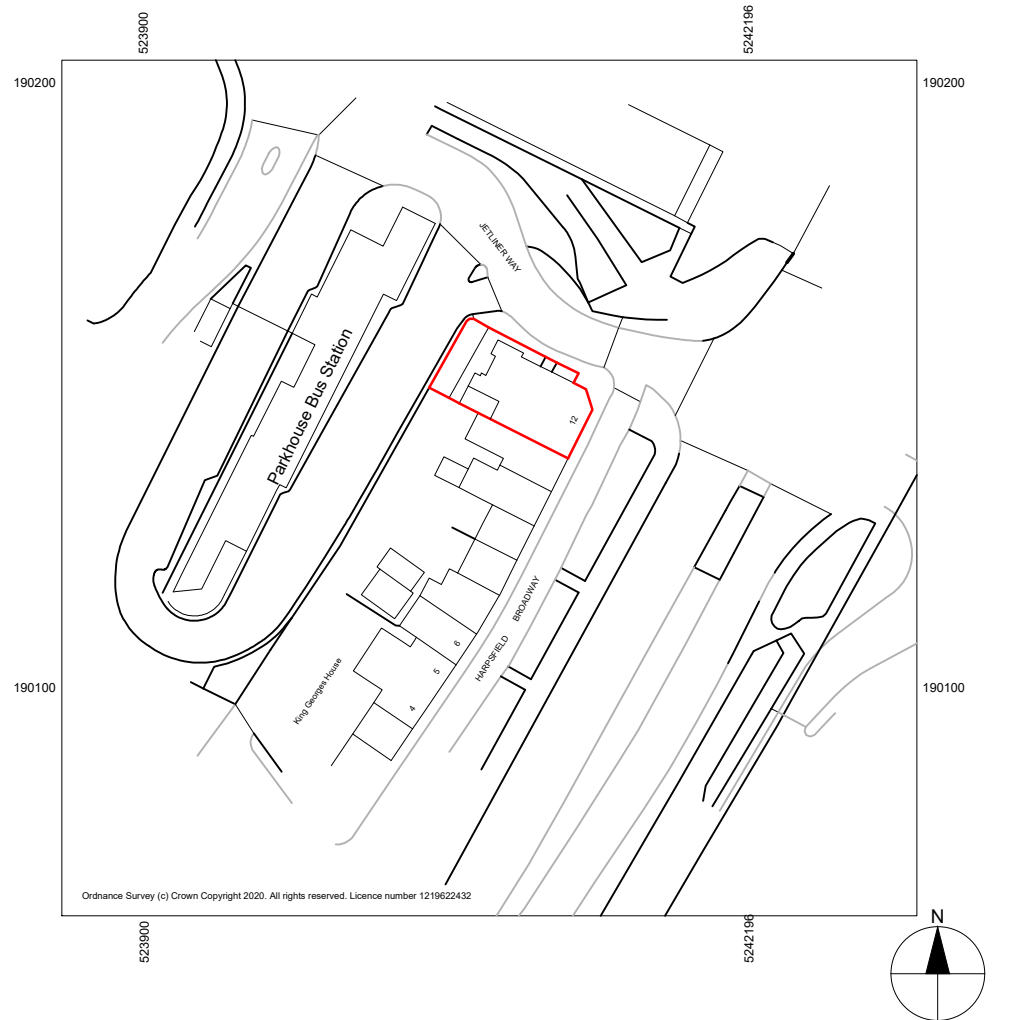
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## 15 APPENDICES

### 15.1 Appendix 1 – Details of Proposed Development

#### 15.1.1 Proposed Plans

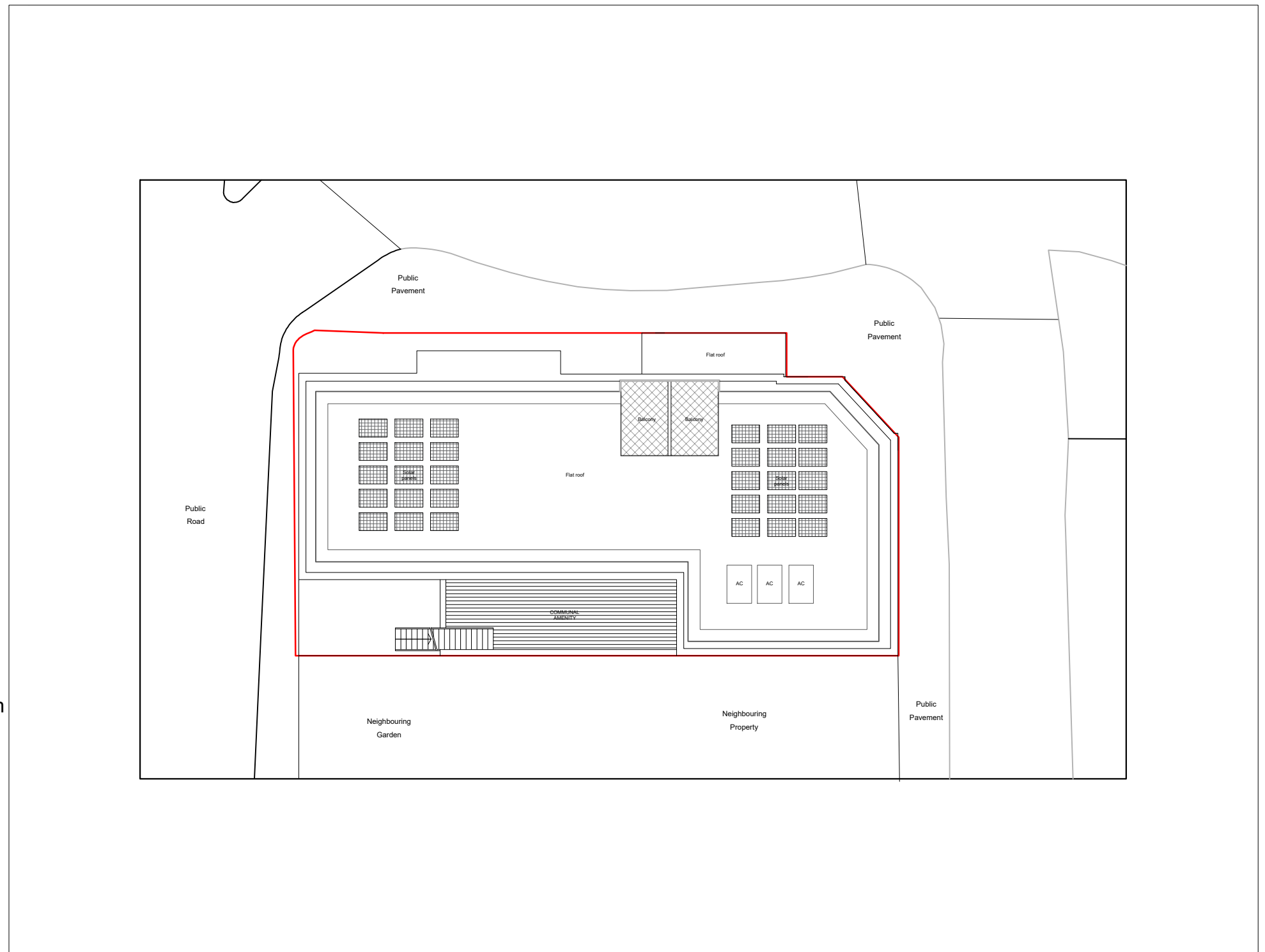


**OS Map**

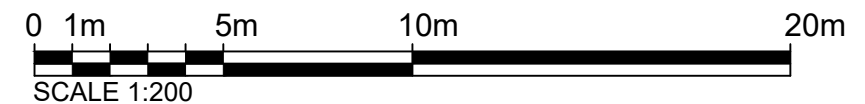
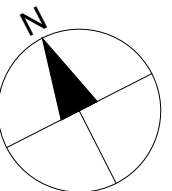


SCALE 1:1250

 Property Boundary



**Location Plan**



SCALE 1:200

Notes.  
Contractors must verify all dimensions at the site before commencing any work.  
No construction work before Building Control approval and structural engineer confirmation.  
Any discrepancies to be reported to Gridline.  
All drawings are to be read in conjunction with all relevant drawings and specifications.

**Project No.S**

REV	DATE	DESCRIPTION	BY	CH

**PROJECT TITLE**

12 Harpsfield Broadway  
Hatfield AL10 9TF

**DATE**  
Mar. '21

**Project No.**  
2196

**DRAWING TITLE**

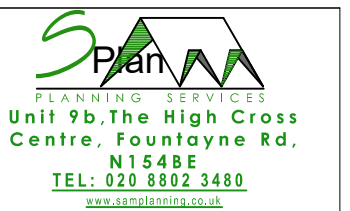
Proposed - OS Map- Location

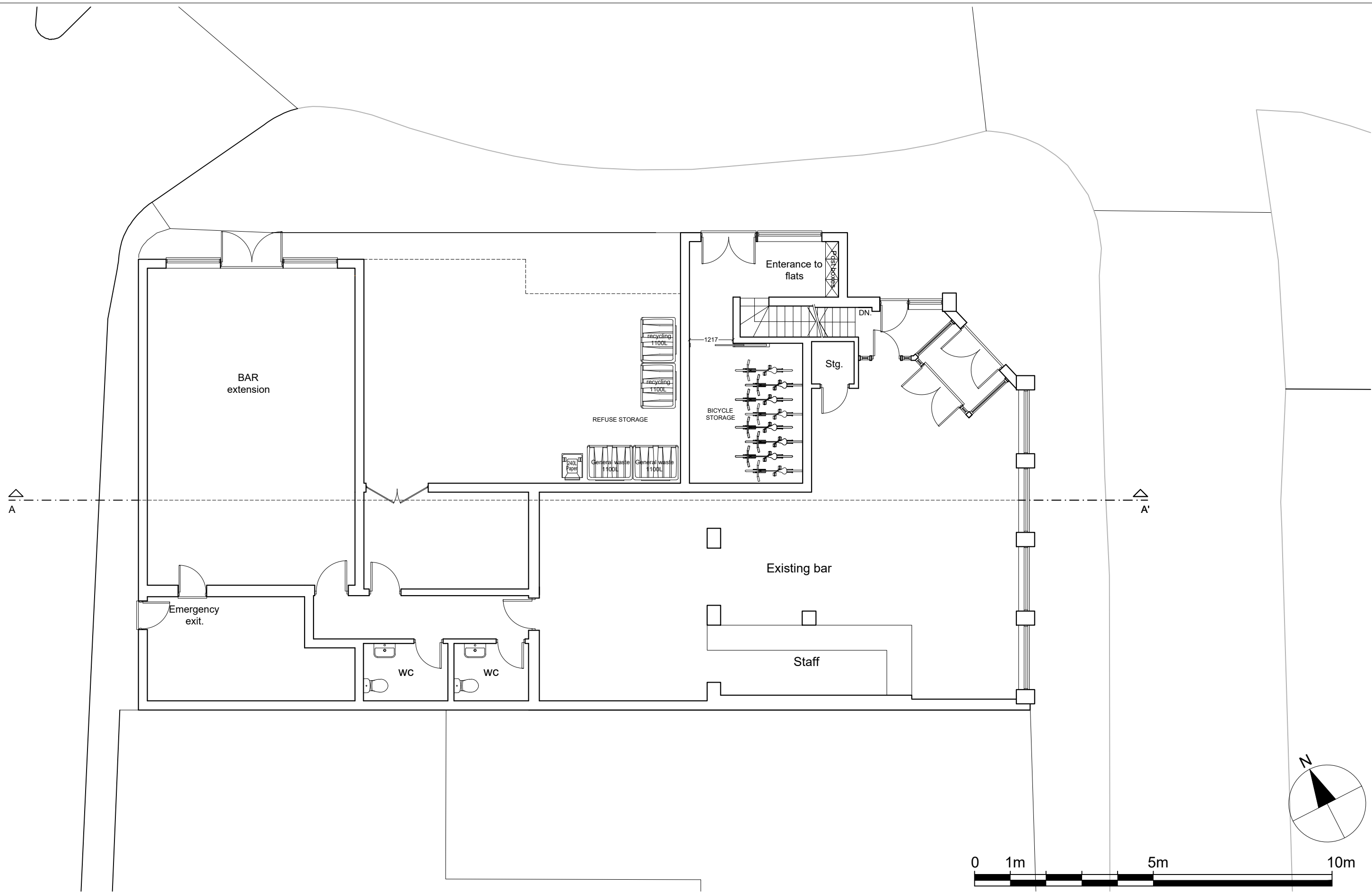
**CLIENT**  
Mr Mak

**DRAWING No.**  
PR-L001

**SCALE @ A3**  
1:1250 / 1:200

**Drawn by:**  
Abraham





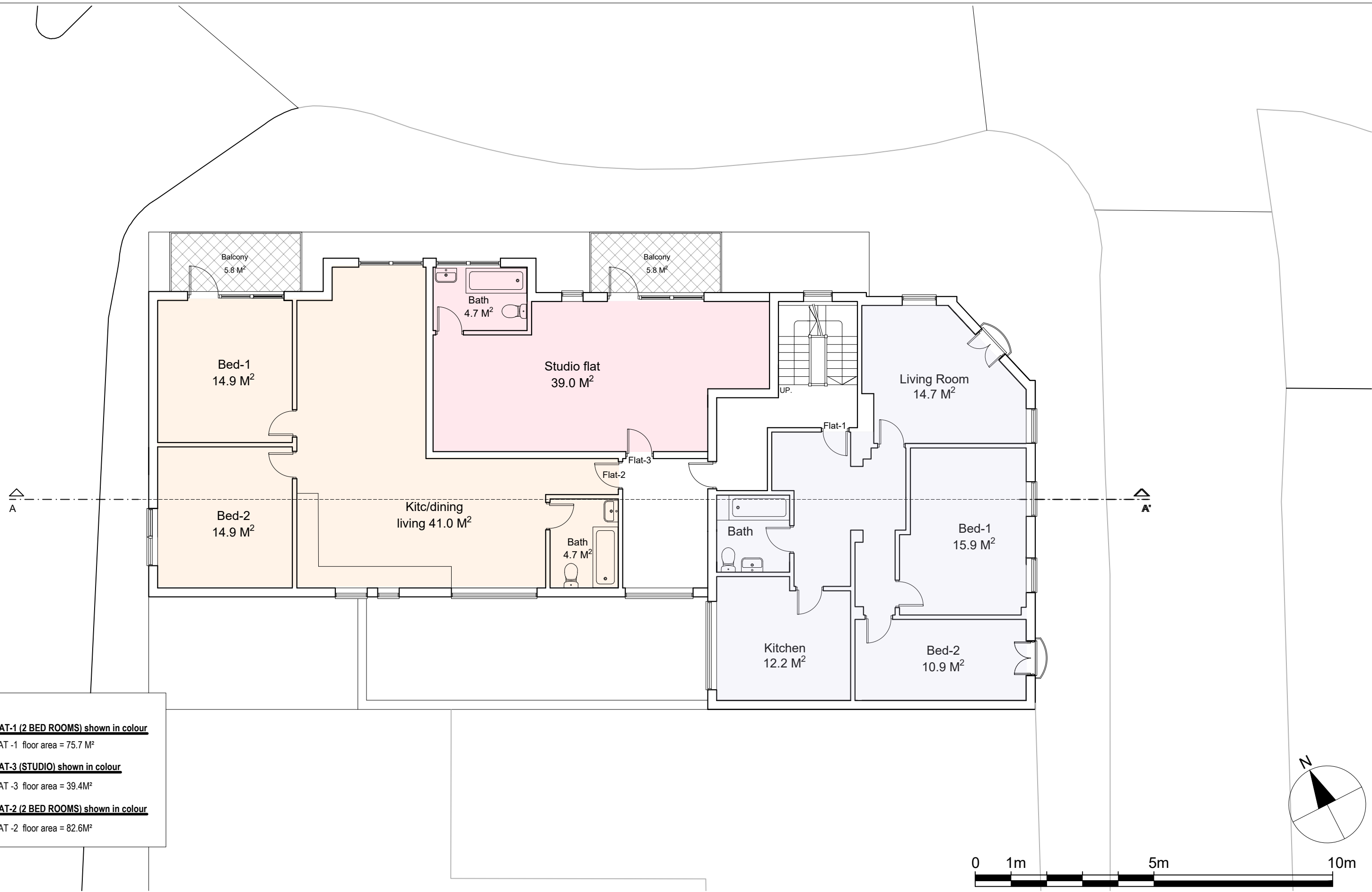
Notes.  
Contractors must verify all dimensions at the site before commencing any work.  
No construction work before Building Control approval and structural engineer confirmation.  
Any discrepancies to be reported to Gridline.  
All drawings are to be read in conjunction with all relevant drawings and specifications.

Project No.S					
REV	DATE	DESCRIPTION	BY	CH	

<b>PROJECT TITLE</b>	
12 Harpsfield Broadway Hatfield AL10 9TF	
<b>DATE</b>	<b>Project No.</b>
Mar. '21	2196

<b>DRAWING TITLE</b>		
Proposed - Ground Floor		
<b>CLIENT</b>		
Mr Mak		
<b>DRAWING No.</b>	<b>SCALE @ A3</b>	<b>Drawn by:</b>
PR-P001	1:100	Abraham

PLANNING SERVICES  
Unit 9b, The High Cross  
Centre, Fountayne Rd,  
N15 4BE  
TEL: 020 8802 3480  
[www.samplanning.co.uk](http://www.samplanning.co.uk)



- FLAT-1 (2 BED ROOMS) shown in colour**  
FLAT -1 floor area = 75.7 M<sup>2</sup>
- FLAT-3 (STUDIO) shown in colour**  
FLAT -3 floor area = 39.4M<sup>2</sup>
- FLAT-2 (2 BED ROOMS) shown in colour**  
FLAT -2 floor area = 82.6M<sup>2</sup>

**Notes.**  
Contractors must verify all dimensions at the site before commencing any work.  
No construction work before Building Control approval and structural engineer confirmation.  
Any discrepancies to be reported to Gridline. All drawings are to be read in conjunction with all relevant drawings and specifications.

Project No.S					
REV	DATE	DESCRIPTION	BY	CH	

**PROJECT TITLE**  
12 Harpsfield Broadway  
Hatfield AL10 9TF

**DATE**  
Mar. '21

**Project No.**  
2196

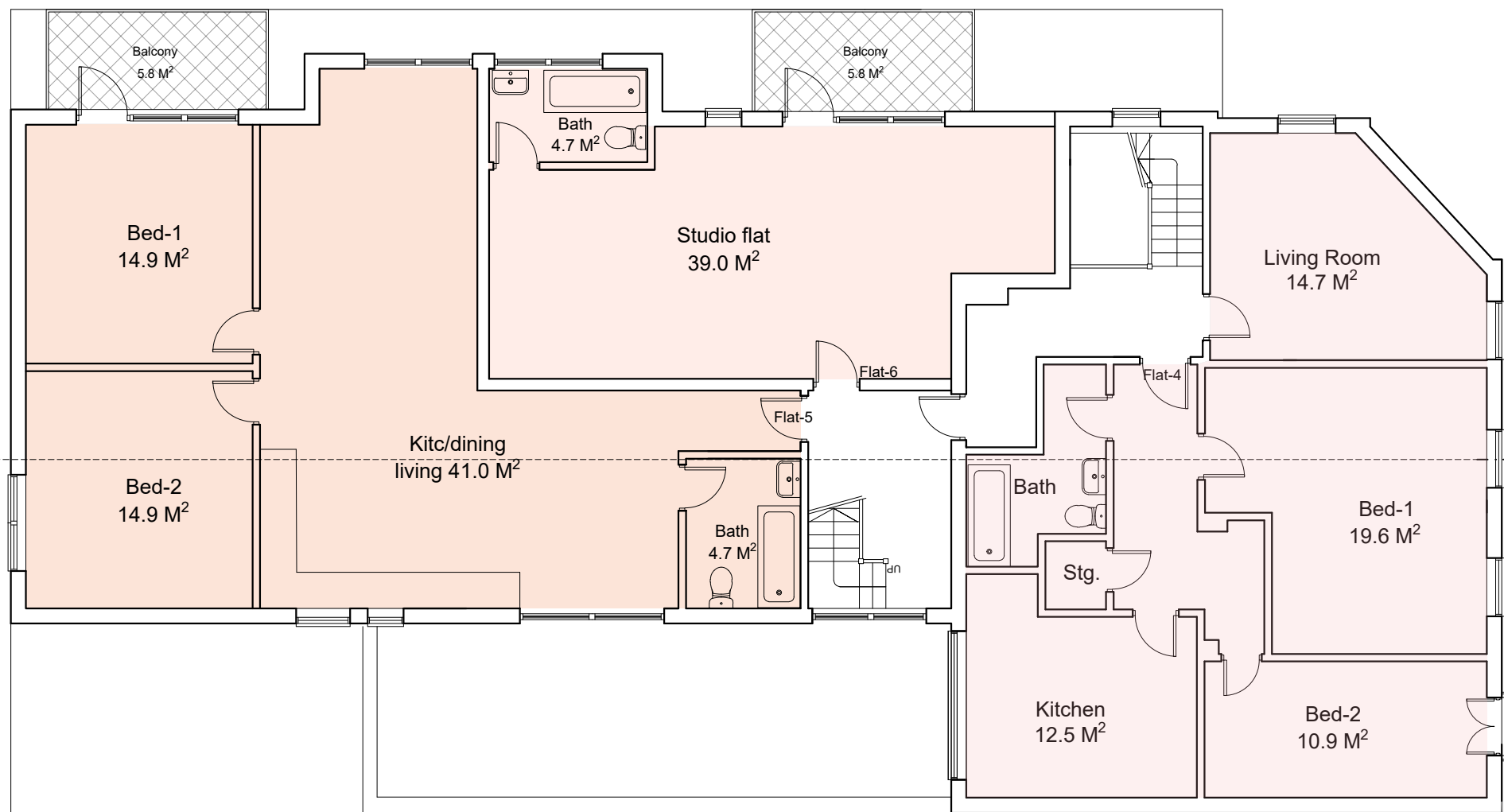
**DRAWING TITLE**  
Proposed - First Floor

**CLIENT**  
Mr Mak

**DRAWING No.** PR-P002    **SCALE @ A3** 1:100    **Drawn by:** Abraham



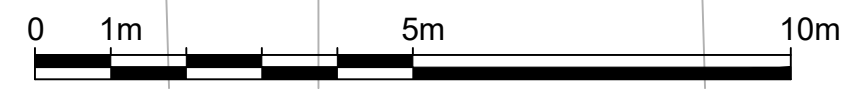
PLANNING SERVICES  
Unit 9b, The High Cross  
Centre, Fountayne Rd,  
N15 4BE  
TEL: 020 8802 3480  
[www.samplanning.co.uk](http://www.samplanning.co.uk)



A

A'

- FLAT-4 (2 BED ROOMS) shown in colour**  
FLAT -4 floor area = 75.5 M<sup>2</sup>
- FLAT-5 (2 BED ROOMS) shown in colour**  
FLAT -5 floor area = 82.2 M<sup>2</sup>
- FLAT-6 (STUDIO) shown in colour**  
FLAT -6 floor area = 39.4M<sup>2</sup>



Notes.  
Contractors must verify all dimensions at the site before commencing any work.  
No construction work before Building Control approval and structural engineer confirmation.  
Any discrepancies to be reported to Gridline.  
All drawings are to be read in conjunction with all relevant drawings and specifications.

Project No.S				
REV	DATE	DESCRIPTION	BY	CH

**PROJECT TITLE**  
12 Harpsfield Broadway  
Hatfield AL10 9TF

**DATE**  
Mar. '21

**Project No.**  
2196

**DRAWING TITLE**  
Proposed - Second Floor

**CLIENT**  
Mr Mak

**DRAWING No.** PR-P003

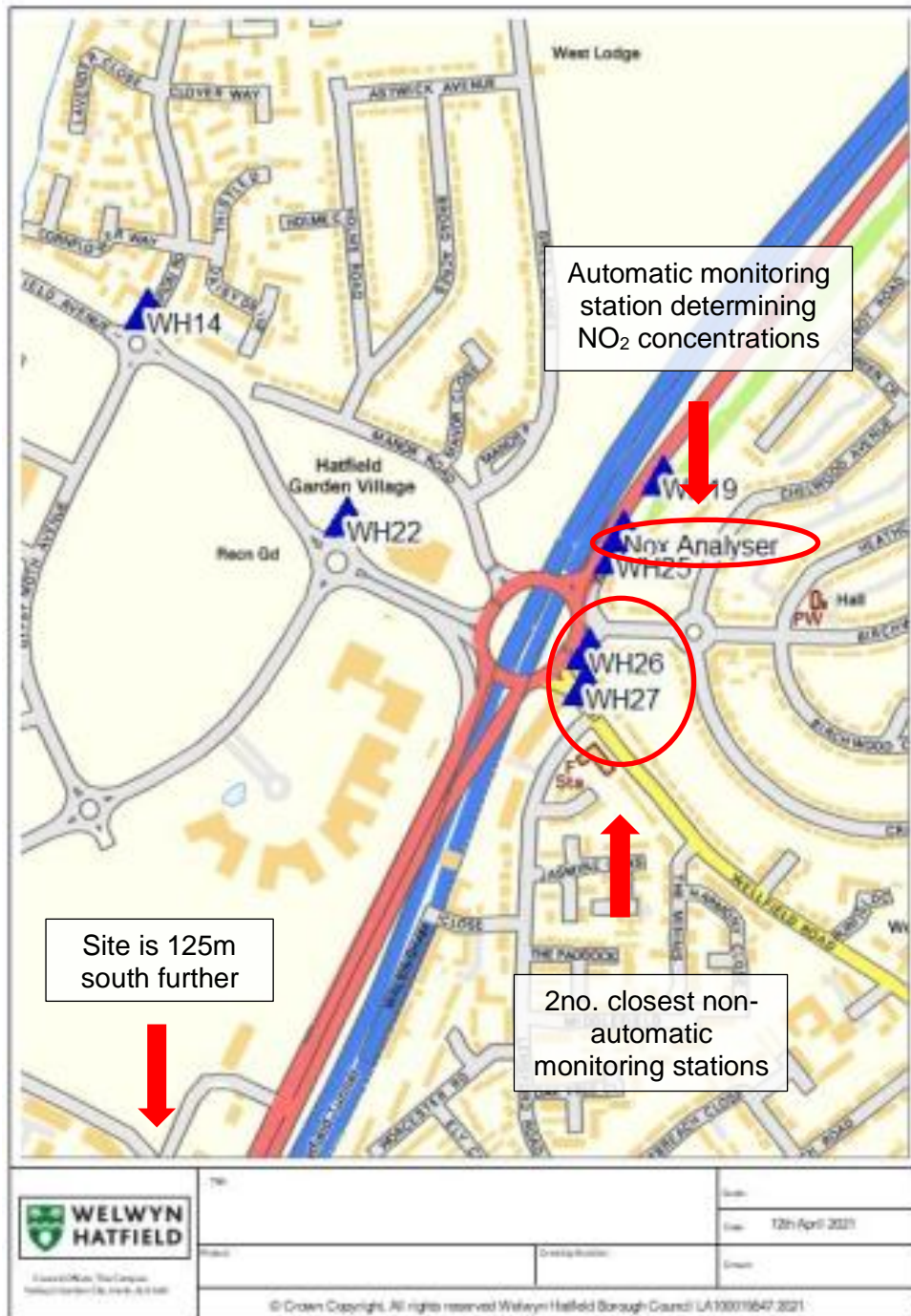
**SCALE @ A3** 1:100

**Drawn by:** Abraham

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## 15.2 Appendix 2 – Air Quality Maps

### 15.2.1 Maps of Monitoring Data



## 15.2.2 Monitoring Results

**Table 7: NO<sub>2</sub> Continuous Monitor Results: Annual Mean NO<sub>2</sub> Monitoring Results (µg m<sup>3</sup>)**

Site ID	Location	Number of Hourly Means >200µg/m <sup>3</sup>				
		2016	2017	2018	2019	2020
WHNOX	West View	-	-	-	-	21

**Table 8: PM<sub>2.5</sub> Continuous Monitor Results: Annual Mean PM<sub>2.5</sub> Monitoring Results (µg m<sup>3</sup>)**

Site ID	Location	Number of Hourly Means >200µg/m <sup>3</sup>				
		2016	2017	2018	2019	2020
WHBAM	Great North Rd/A1000	9	13	11	10	9

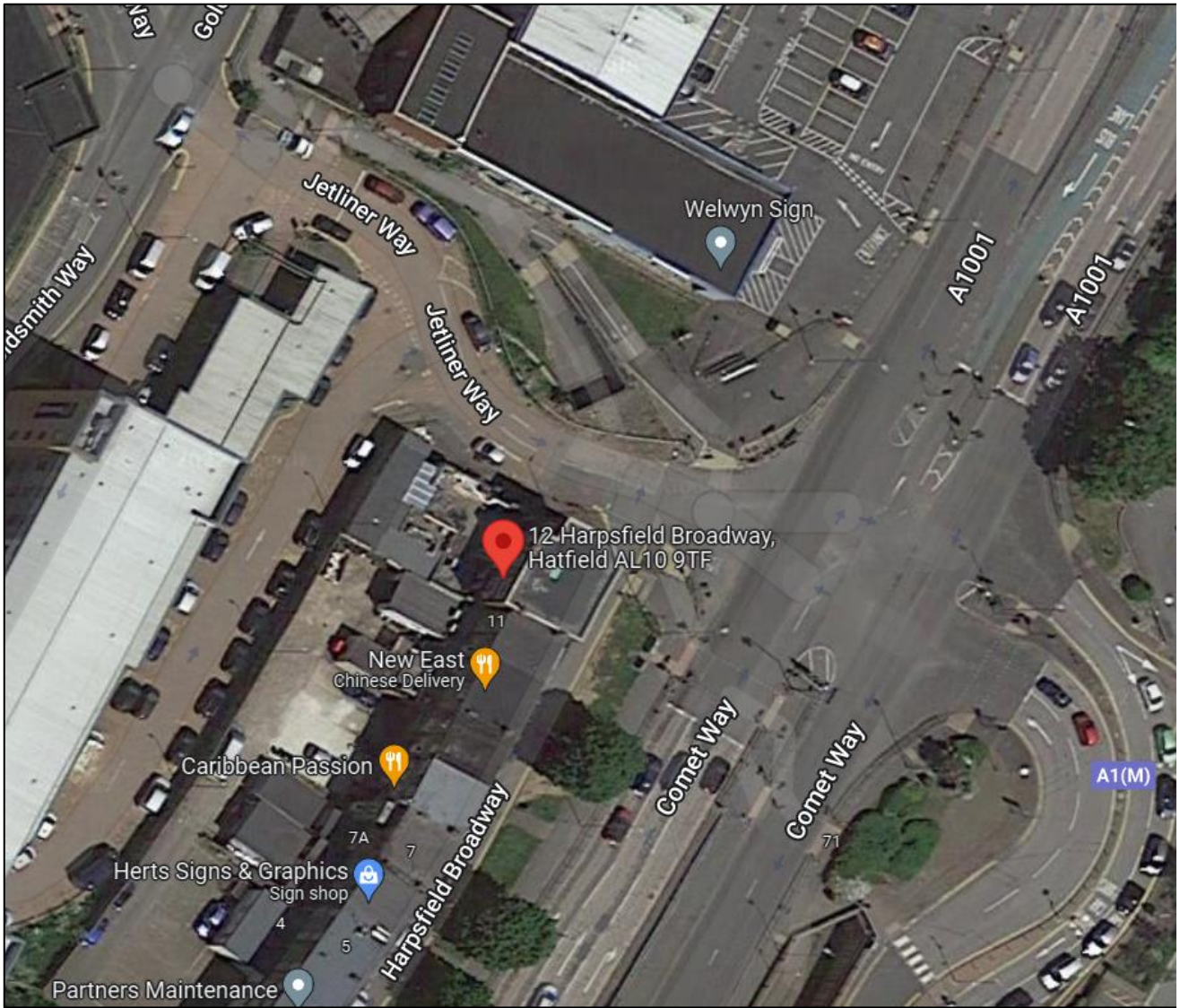
**Table 9: NO<sub>2</sub> Diffusion Tube Monitor Results: Annual Mean NO<sub>2</sub> Monitoring Results (µg m<sup>3</sup>)**

Site ID	Location	Number of Hourly Means >200µg/m <sup>3</sup>				
		2016	2017	2018	2019	2020
WH26	West View, Hatfield	37	39	45	48	35.1
WH27	West View, Hatfield	37	40	34	34	26.2

### 15.3 Appendix 3 – Site Photographs







## 15.4 Appendix 4 – Air Quality Neutral benchmarks

**Table 10: Air Quality Neutral' Emissions Benchmarks For Buildings**

Land Use Class	Description	NO <sub>x</sub> (g/m <sup>2</sup> )	PM <sub>10</sub> (g/m <sup>2</sup> )
Class A1	Retail - Shops and retail outlets	22.6	1.29
Class A3 - A5	Restaurants - Food and drink/ hot food and takeaway.	75.2	4.32
Class A2 and Class B1*	Financial/Professional services/ business	30.8	1.77
Class B2 - B7	General & Special industrial use	36.6	2.95
Class B8	Storage or distribution centre	23.6	1.90
Class C1	Hotels, boarding houses, guest houses	70.9	4.07
Class C2	Residential Institutions - hospitals and nursing/care homes, Schools, colleges or training centres, care homes	68.5	5.97
Class C3	Residential Dwellings	26.2	2.28
D1 (a)	Medical and health services - Clinics, health centres	43.0	2.47
D1 (b)	Crèche/day nurseries, day centres	75.0	4.30
Class D1 (c -h)	Schools, libraries	31.0	1.78
Class D2 (a-d)	Assembly and Leisure - Cinemas, theatres	90.3	5.18
Class D2 (e)	Swimming pools, gymnasiums or areas for indoor or outdoor sports and recreations etc	284	16.3

\*B1 was revoked and replaced by E in September 2020

**Table 11: Air Quality Neutral' Emissions Benchmarks For Transport**

Land use	Central Activity Zone (CAZ) & Canary Wharf	Inner	Outer
<b>NO<sub>x</sub> (g/m<sup>2</sup>/annum)</b>			
Retail (A1)	169	219	249
Office (B1/E)	1.27	11.4	68.5
<b>NO<sub>x</sub> (g/dwelling/annum)</b>			
Residential (C3)	234	558	1553
<b>PM<sub>10</sub> (g/m<sup>2</sup>/annum)</b>			
Retail (A1)	29.3	39.3	42.9
Office (B1/E)*	0.22	2.05	11.8
<b>PM<sub>10</sub> (g/dwelling/annum)</b>			
Residential (C3,C4)	40.7	100	267

\*B1 was revoked and replaced by E in September 2020

**Table 12: Average Distance Travelled by Car per Trip**

Land Use	Distance (km)		
	CAZ	Inner	Outer
Retail (A1)	9.3	5.9	5.4
Office (B1/E)*	3.0	7.7	10.8
Residential (C3)*	4.3	3.7	11.4

\*B1 was revoked and replaced by E in September 2020

\*Based on the LTDS destination.

Note these distances are based on a straight line between the origin and destination of a trip, not the actual trip lengths.

**Table 13: Emission Factors**

Pollutant	g/vehicle (km)		
	CAZ	Inner	Outer
NOx	0.4224	0.370	0.353
PM10	0.0733	0.0665	0.0606

## 16 REFERENCES

1. Local Air Quality Management, Policy Guidance (PG16) , 2016 – DEFRA
2. GLA (2021), The London Plan
3. Land-Use Planning & Development Control: Planning For Air Quality - EPUK & IAQM
4. Control of Dust and Emissions During Construction and Demolition SPG - July 2014 – Mayor of London
5. Air Quality Neutral Planning Support Update: GLA 80371, April 2014
6. 2021 Air Quality Annual Status Report – WHBC, October 2021
7. Welwyn Hatfield District Plan 2005