



BETTER SOLUTIONS, INTELLIGENTLY ENGINEERED

ENVIRONMENT

WILLIAM GEORGE HOMES LIMITED

CHURCH HILL ROAD, SURBTION

Air Quality Assessment

MCP2442



WILLIAM GEORGE HOMES LIMITED
CHURCH HILL ROAD, SURBITON

AIR QUALITY ASSESSMENT

Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds
LS1 4EH
T: 0113 233 8000

London
11 Borough High Street
London, SE1 9SE
T: 0207 407 3879

Manchester
11 Portland Street
Manchester, M1 3HU
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

August 2021

DOCUMENT ISSUE RECORD

Document Number:	CHR-BWB-ZZ-ZZ-RP-LA-0001_AQA_S0_P02
BWB Reference:	MCP2442-001

Revision	Date of Issue	Status	Author:	Checked:	Approved:
1.0	12/03/2021	Issue	E. Thomas BSc (Hons), AIAQM, AMIEnvSc	R. Shorrocks MSc, BSc (Hons), AIAQM, MIEnvSc	C. Meddings MSc, BSc (Hons), CSci, MIAQM, MIEnvSc
2.0	12/08/2021	Issue	E. Thomas BSc (Hons), AIAQM, AMIEnvSc	R. Shorrocks MSc, BSc (Hons), AIAQM, MIEnvSc	C. Meddings MSc, BSc (Hons), CSci, MIAQM, MIEnvSc

Notice

This document has been prepared for the sole use of the Client in accordance with the terms of the appointment under which it was produced. BWB Consulting Limited accepts no responsibility for any use of or reliance on the contents of this document by any third party. No part of this document shall be copied or reproduced in any form without the prior written permission of BWB.

EXECUTIVE SUMMARY

BWB Consulting Limited was appointed by William George Homes Limited to undertake an air quality assessment for a proposed residential development on Church Hill Road in Surbiton.

The proposed development Site is located within the administrative area of Royal Borough of Kingston upon Thames Council and lies adjacent to Church Hill Road. The Site is located within the borough wide Kingston upon Thames Air Quality Management Area, which is designated for the potential exceedance of the annual mean nitrogen dioxide (NO₂) and both the annual and 24 hour particulate matter (PM₁₀) air quality objectives.

A qualitative construction phase dust assessment was undertaken in accordance with Institute of Air Quality Management and Greater London Authority guidance and measures were recommended for inclusion in a Dust Management Plan to minimise emissions during construction activities. With the implementation of these mitigation measures the impact of construction phase dust emissions was considered to be 'not significant' in accordance with Institute of Air Quality Management guidance.

The proposed development trip generation was screened using the Institute of Air Quality Management and Environmental Protection UK two stage screening process, to determine whether a detailed road traffic emissions impact assessment was required. The proposed development did not exceed the relevant screening criteria and therefore detailed dispersion modelling of development-generated road traffic was not undertaken.

Consideration was also given to the suitability of the Site for the proposed residential use. Available background mapped pollutant concentrations and local air quality monitoring data was reviewed and consideration given to the location of the Site and the presence of existing pollutant sources. Monitoring data indicated concentrations of NO₂ and PM₁₀ in the vicinity of the Site are below the annual mean air quality objectives adjacent to main A roads. The Site is not adjacent to a main A road and therefore concentrations at the Site are expected to be below the annual mean air quality objectives. The Site was therefore considered suitable for the proposed use with regard to local air quality.

An Air Quality Neutral Assessment was undertaken to compare building emissions from the proposed development with GLA benchmarks. The development emissions are well below the benchmarks and therefore the development is considered to be 'air quality neutral'.

CONTENTS

EXECUTIVE SUMMARY	iii
1. INTRODUCTION.....	5
Appointment & Background.....	5
Site Setting	5
Proposed Development	5
2. LEGISLATION, PLANNING POLICY & GUIDANCE.....	7
Legislation and Planning Policy	7
Air Quality Assessment Guidance	7
3. METHODOLOGY	8
Consultation with Royal Borough of Kingston upon Thames Council	8
Construction Phase Assessment	8
Road Traffic Emissions – Screening Assessment	9
Site Suitability Assessment	9
Air Quality Neutral Assessment.....	10
4. CONSTRUCTION PHASE ASSESSMENT	12
Step 1: Screen the Need for a Detailed Assessment.....	12
Step 2: Assess the Risk of Dust Impacts.....	12
5. OPERATIONAL PHASE ROAD TRAFFIC EMISSIONS ASSESSMENT.....	20
6. Air Quality Neutral Assessment.....	24
7. CONCLUSIONS	26

FIGURES

Figure 1.1: Site Location Plan

Figure 4.1: Construction Phase Dust Assessment Distance Buffers

APPENDICES

APPENDIX A: Glossary of Terms

APPENDIX B: Planning Policy and Legislation

APPENDIX C: Proposed Development Drawings

1. INTRODUCTION

Appointment & Background

- 1.1 BWB Consulting Limited was appointed by William George Homes Limited to undertake an air quality assessment for a proposed residential development on Church Hill Road, Surbiton ('the Site').
- 1.2 A planning application was submitted in December 2020, (planning reference 20/03091/FUL) and an air quality assessment was requested by the case officer.
- 1.3 The assessment considers construction phase dust impacts and operational phase road traffic emissions. A qualitative construction phase dust assessment was undertaken in accordance with relevant guidance. An operational phase road traffic emissions impact screening assessment was undertaken to consider the requirement for a detailed assessment of additional vehicles generated by the proposed development. Qualitative consideration was given to existing air quality concentrations at, and in the vicinity of, the Site to assess the suitability of the Site for the proposed residential use. In addition, an Air Quality Neutral Assessment (AQNA) was undertaken to consider building and traffic emissions resulting from the proposed development.
- 1.4 This report is necessarily technical in nature, so to assist the reader, a glossary of air quality terminology can be found in **Appendix A**.

Site Setting

- 1.5 The Site is located off Church Hill Road, within the administrative area of Royal Borough of Kingston upon Thames Council (RBKC). **Figure 1.1** details the location of the proposed development. The Site currently comprises two residential bungalows and associated gardens.
- 1.6 To the north, east and west of the Site lie existing residential dwellings on Selsdon Close, Avenue Elmers and Adelaide Road. Church Hill Road is adjacent to the Site to the south with existing residential dwellings and St Mark's Church beyond.
- 1.7 Principal air pollution sources in the vicinity of the development are likely to comprise road traffic emissions. The Site is located within the borough wide Kingston upon Thames Air Quality Management Area (AQMA), which was designated for the potential exceedance of the annual mean air quality objective for nitrogen dioxide (NO₂) and the annual and daily particulate matter (PM₁₀) air quality objectives.

Proposed Development

- 1.8 The proposed development comprises 24 residential apartments, landscaping and two disabled car parking spaces. The proposed development masterplan is detailed in **Appendix B**.

Figure 1.1: Site Location

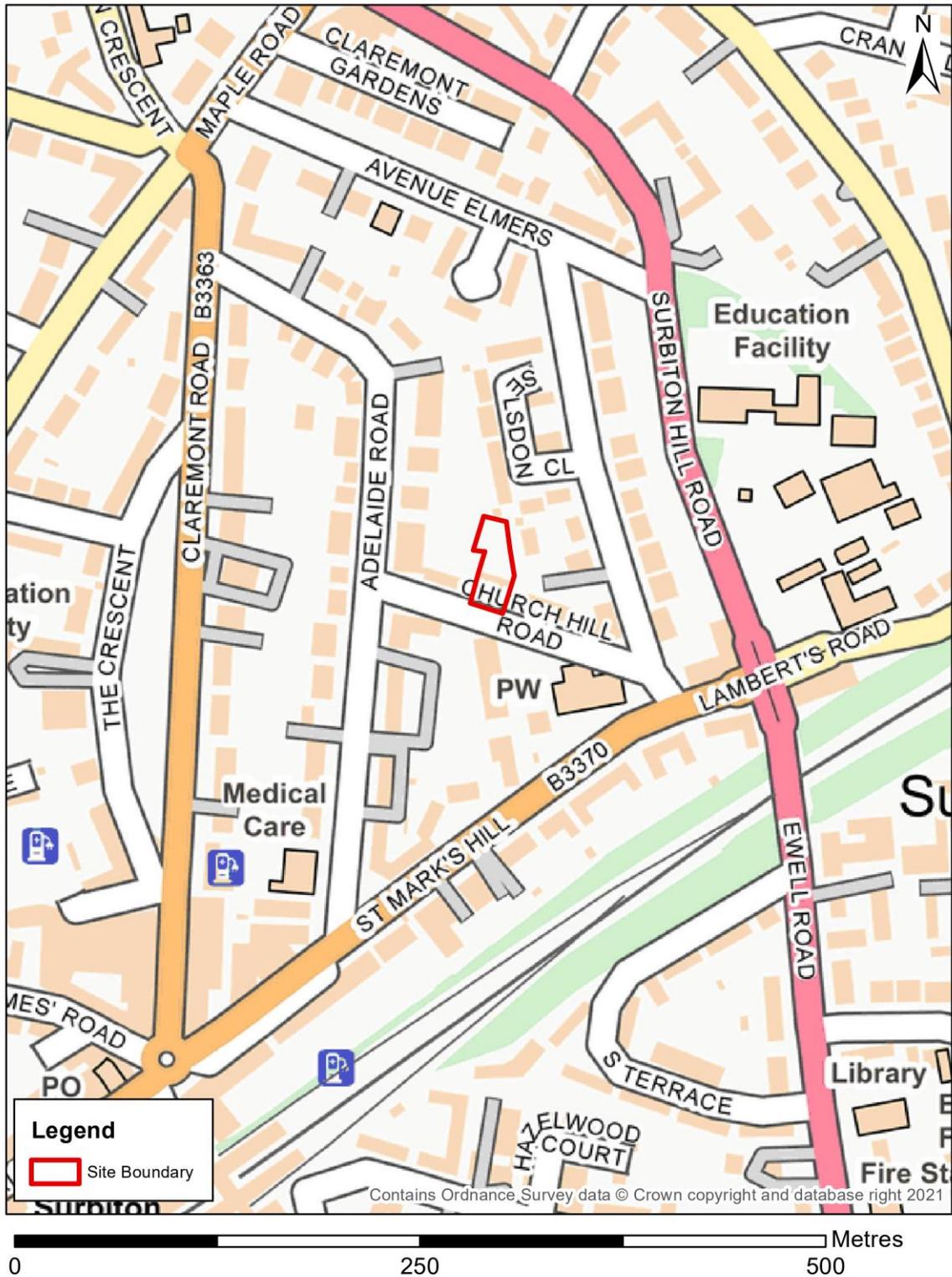


Figure 1.1: Site Location

Drawn by: ET
Date: 09/03/2021

2. LEGISLATION, PLANNING POLICY & GUIDANCE

Legislation and Planning Policy

2.1 The following legislation and planning policy was utilised in the undertaking of the assessment and is detailed in **Appendix B**:

- European Parliament, EU 2008 ambient Air Quality Directive (2008)¹;
- HMSO, Air Quality (England) Regulations (2000)²;
- HMSO, Environment Act (1995)³;
- Department for Environment, Air Quality Strategy (1997)⁴;
- Department for the Environment, Food and Rural Affairs, Air Quality Strategy (2007)⁵;
- Ministry of Housing, Communities and Local Government, National Planning Policy Framework (NPPF) (2021)⁶;
- Ministry for Housing, Communities and Local Government, Planning Practice Guidance (PPG) for air quality (2019)⁷;
- Greater London Authority, London Plan (2021)⁸; and
- Royal Borough of Kingston upon Thames, Core Strategy Local Plan⁹.

Air Quality Assessment Guidance

2.2 The following guidance was utilised in the air quality assessment:

- Defra, Local Air Quality Management Technical Guidance (LAQM.TG(16)) (2018)¹⁰;
- Institute of Air Quality Management, Guidance on the assessment of dust from demolition and construction (2014)¹¹;
- Greater London Authority, The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance (2014)¹²;
- Institute of Air Quality Management and Environmental Protection UK, Land-Use Planning and Development Control: Planning for Air Quality (2017)¹³;
- Greater London Authorities, Air Quality Neutral Planning Support Update (2014)¹⁴; and
- The London Air Pollution Planning and Local Environment (APPLE) Working Group, January (2007), London Councils Air Quality and Planning Guidance¹⁵.

¹ European Parliament (2008) Council Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe

² HMSO (2000) Statutory Instrument 2000 No. 928, The Air Quality (England) Regulations 2000 (as amended), London: HMSO

³ HMSO (1995) The Environment Act 1995, London: TSO

⁴ Department of the Environment (DoE) (1997) The UK National Air Quality Strategy, London: HMSO

⁵ Department of the Environment, Food and Rural Affairs (Defra) (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, London: HMSO

⁶ Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework, HMSO London

⁷ Ministry for Housing, Communities and Local Government (2019) Planning Practice Guidance Air Quality

⁸ Great London Authority (2021) The London Plan

⁹ Royal Borough of Kingston upon Thames (2012) Royal Borough of Kingston upon Thames Core Strategy

¹⁰ Defra (2018) Local Air Quality Management Technical Guidance LAQM.TG(16)

¹¹ Institute of Air Quality Management (2014) Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London

¹² Greater London Authority (2014) The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance.

¹³ Institute of Air Quality Management and Environmental Protection UK (2017) Land-Use Planning and Development Control: Planning for Air Quality

¹⁴ Air Quality Neutral Planning Support Update: GLA 80371, Air Quality Consultants and Environ, 2014.

¹⁵ The London Air Pollution Planning and Local Environment (APPLE) Working Group, January (2007), London Councils Air Quality and Planning Guidance

3. METHODOLOGY

Consultation with Royal Borough of Kingston upon Thames Council

- 3.1 Consultation was undertaken with the Regulatory Services at RBKC, in which the proposed assessment methodology was provided via email and a response was received on 3rd March 2021¹⁶.
- 3.2 The agreed assessment methodology is detailed below:
- Construction Phase – A construction phase assessment was undertaken and relevant measures to mitigate construction phase dust emissions were recommended. The assessment was undertaken in accordance with guidance provided by the Institute of Air Quality Management (IAQM)¹¹.
 - Operational Phase – An operational phase road traffic emissions screening assessment was undertaken in accordance with IAQM and Environmental Protection UK (EPUK) guidance¹³. In addition, consideration was given to Defra background concentration maps¹⁷ and monitoring data in the area of RBKC to determine baseline conditions to consider the suitability of the Site for the proposed residential use.
 - AQNA – An Air Quality Neutral Assessment was also undertaken to compare building emissions from the proposed development with GLA benchmarks¹⁴.
- 3.3 Full details of the methodology used in the assessment as agreed with RBKC are provided below.

Construction Phase Assessment

- 3.4 An assessment of the potential impacts arising from the construction of the proposed development was undertaken in accordance with IAQM Guidance¹¹. The full assessment methodology is not reproduced within this report but a summary of the assessment steps are provided below:
- Step 1 – screen the requirement for a more detailed assessment. No assessment is required if there are no receptors within a certain distance of the works.
 - Step 2 – assess the risk of dust impacts separately for each of the four activities considered (demolition, earthworks, construction and trackout).
 - Step 2A – determine the potential dust emission magnitude for each of the four activities;
 - Step 2B – determine the sensitivity of the area;
 - Step 2C – determine the risk of dust impacts by combining the findings of steps 2A and 2B.
 - Step 3 – determine the site-specific mitigation for each of the four activities; and
 - Step 4 – examine the residual effects and determine significance.

¹⁶ Consultation request emails issued to Royal Borough of Kingston upon Thames Council Regulatory Services Department on 02/03/2021 and a response was received on 03/03/2021

¹⁷ Defra (2020) Background mapping [<https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>]

Road Traffic Emissions – Screening Assessment

- 3.5 Guidance published by the IAQM and EPUK in 2017¹³ provides a two-stage approach to determine the level of assessment required in the consideration of the impact of development-generated road traffic emissions on local air quality.

Stage 1

- 3.6 The Stage 1 criteria requires that the assessment progress to Stage 2 if any of the following apply:
- The development comprises:
 - 10 or more residential units or a site area of more than 0.5ha; or
 - More than 1,000m² of floor space for all other uses or a site area greater than 1ha;
 - Coupled with any of the following:
 - The development has more than 10 parking spaces; or
 - The development will have a centralised energy facility or other centralised combustion process.

Note: Consideration should be given to the potential impacts of neighbouring sources on the site, even if an assessment of impacts of the development on the surrounding area is screened out.

Stage 2

- 3.7 The IAQM and EPUK guidance¹³ provides the following indicative criteria to determine whether a detailed road traffic emissions assessment is required for a proposed development.
- 3.8 The Stage 2 criteria relevant to the Proposed Development are:
- A change in Light Duty Vehicles (LDV) of more than 100 vehicles as a 24 hour Annual Average Daily Traffic (AADT) flow within an AQMA; and
 - A change in HDV flow of more than 25 vehicles as a 24 hour AADT flow within an AQMA.

Site Suitability Assessment

- 3.9 Local monitored concentrations undertaken by RBKC were compared to the relevant air quality objectives. The current relevant air quality standards and objectives are detailed in **Table 3.1**.

Table 3.1: Air Quality Standards and Objectives (England)

Pollutant	Averaging Period	Air Quality Objective (µg.m ⁻³)	Date to Achieve by
NO ₂	Annual Mean	40	31 December 2005
	1-hour mean not to be exceeded more than 18 times per year	200	31 December 2005

Pollutant	Averaging Period	Air Quality Objective ($\mu\text{g.m}^{-3}$)	Date to Achieve by
PM ₁₀	Annual Mean	40	31 December 2004
	24-hour mean not to be exceeded more than 35 times per year	50	31 December 2004
PM _{2.5}	Annual mean target (15% cut in annual mean (urban background exposure))	25	2010 - 2020

3.10 Additionally, local monitored concentrations were compared to APEC¹⁵, as detailed in **Table 3.2**, to determine the requirement for mitigation.

Table 3.2: Air Pollution Exposure Criteria

Air Pollution Exposure Criteria	Concentration Range	Recommendation
APEC A	Below 5% of the annual mean air quality limit value (below $38\mu\text{g.m}^{-3}$)	No air quality grounds for refusal: however mitigation of any emissions should be considered.
APEC B	Between 5% below or above the annual mean air quality limit value ($38 - 42\mu\text{g.m}^{-3}$)	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 air quality limit value (above $42\mu\text{g.m}^{-3}$)	Refusal on air quality grounds should be anticipated, unless the Local Authority 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 the air quality assessment, detailing anticipated outcomes of mitigation measures.

Air Quality Neutral Assessment

- 3.11 An air quality neutral policy is included in the London Plan⁸, which aims to ensure that developments are air quality neutral or better, particularly in areas where any objectives are being breached.
- 3.12 The Air Quality Neutral Planning Guidance¹⁴ was produced to further develop the policy and discuss assessment options. The guidance establishes benchmarks for acceptable emissions for particular planning uses and concludes that emissions from buildings and transport should be treated separately, with the intent that each should attain air quality neutrality.

3.13 The road traffic emissions and building emissions associated with the proposed development were compared with benchmark levels provided in the guidance¹⁴.

4. CONSTRUCTION PHASE ASSESSMENT

4.1 The construction phase of the proposed development will involve a number of activities which have the potential to impact on local air quality. These include emissions of dust generated through demolition, excavation, construction, earthworks and trackout activities, exhaust pollutant emissions from construction traffic on the local highways network, and exhaust emissions from non-road mobile machinery (NRMM) within the construction site itself.

4.2 The location of sensitive receptors in relation to construction activities will affect the potential for such construction activities to cause dust soiling, nuisance and local air quality impacts. Meteorological conditions and the use of control measures will also contribute to the effects experienced.

Step 1: Screen the Need for a Detailed Assessment

4.3 Step 1 of the IAQM guidance¹¹ and GLA guidance¹² involves a screening assessment to consider whether a more detailed construction phase dust assessment is required.

4.4 In accordance with the guidance, a detailed assessment is required if:

- Human receptors are located within 350m of the boundary of the site or 50m of routes used by construction vehicles on the public highways, up to 500m from the site entrances; or
- Ecological receptors are located within 50m of the boundary of the site or 50m of routes used by construction vehicles on the public highways, up to 500m from the site entrances.

4.5 From a review of the Multi Agency Geographic Information for the Countryside (MAGIC) website¹⁸, no ecological designations were identified within 50m of the proposed development and therefore the impact on ecological designations was not considered further. However human receptors are located within 350m of the Site boundary, with the closest of these receptors located off Church Hill Road. A construction phase assessment was therefore undertaken.

Step 2: Assess the Risk of Dust Impacts

Step 2A: Define the Potential Dust Emission Magnitude

4.6 The dust emission magnitudes for the construction activities were defined using the criteria detailed in the IAQM guidance¹¹. These criteria and the dust emission magnitude defined for the proposed development are detailed in **Table 4.1**.

Table 4.1: Dust Emission Magnitude Criteria and Definition

Activity	IAQM Dust Emission Magnitude	IAQM Dust Emission Magnitude Criteria	Project Defined Dust Emission Magnitude
Demolition	Large	Total building volume >50,000m ³ , potentially dusty construction material (e.g. concrete), on-	Small: Total demolition

¹⁸ Defra, Multi Agency Geographic Information for the Countryside (MAGIC) [<http://magic.defra.gov.uk/>]

Activity	IAQM Dust Emission Magnitude	IAQM Dust Emission Magnitude Criteria	Project Defined Dust Emission Magnitude
		site crushing and screening, demolition activities >20m above ground level.	volume is less than 20,000m ³ and less than 10m above ground.
	Medium	Total building volume 20,000m ³ – 50,000m ³ , potentially dusty construction material, demolition activities 10 - 20m above ground level.	
	Small	Total building volume <20,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10m above ground, demolition during wetter months.	
Earthworks	Large	Total site area >10,000m ² , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >8 m in height, total material moved >100,000 tonnes.	Small: Total Site area is less than 2,500m ² .
	Medium	Total site area 2,500m ² – 10,000m ² , moderately dusty soil type (e.g. silt), 5 - 10 heavy earth moving vehicles active at any one time, formation of bunds 4m - 8m in height, total material moved 20,000 tonnes – 100,000 tonnes.	
	Small	Total site area <2,500m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4m in height, total material moved <20,000 tonnes, earthworks during wetter months.	
Construction	Large	Total building volume >100,000m ³ , on site concrete batching, sandblasting.	Small: Total building volume is less than 25,000m ³ .
	Medium	Total building volume 25,000m ³ – 100,000m ³ , potentially dusty construction material (e.g. concrete), on site concrete batching.	
	Small	Total building volume <25,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber).	
Trackout	Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m.	Small: Less than 10 HDV movements are anticipated per day during the construction of the development.
	Medium	10 - 50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50m – 100m.	
	Small	<10 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.	

Step 2B: Define the Sensitivity of the Area

- 4.7 The sensitivity of the study area takes into account the specific receptors in the vicinity of the Site, the proximity and number of those receptors, the local background concentration of PM₁₀ and site-specific factors. **Figure 4.1** was utilised to determine the number of receptors located within the distance bands provided in the IAQM guidance¹¹ and GLA guidance¹² for determining receptor sensitivity. The assessment requires the determination of the sensitivity of the area for the purposes of dust soiling and human health and these are presented in **Table 4.2**.

Table 4.2: Determination of the Sensitivity of the Area

Potential Impact	Justification	Sensitivity			
		Demolition	Earthworks	Construction	Trackout
Dust Soiling	There are 10 - 100 highly sensitive receptors within 20m of the proposed development.	High	High	High	High
Human Health	There are 10 - 100 highly sensitive receptors within 20m of the proposed development. The 2021 background concentration of PM ₁₀ is less than 24µg.m ⁻³ .	Low	Low	Low	Low

Figure 4.1: Construction Phase Dust Assessment Distance Buffers

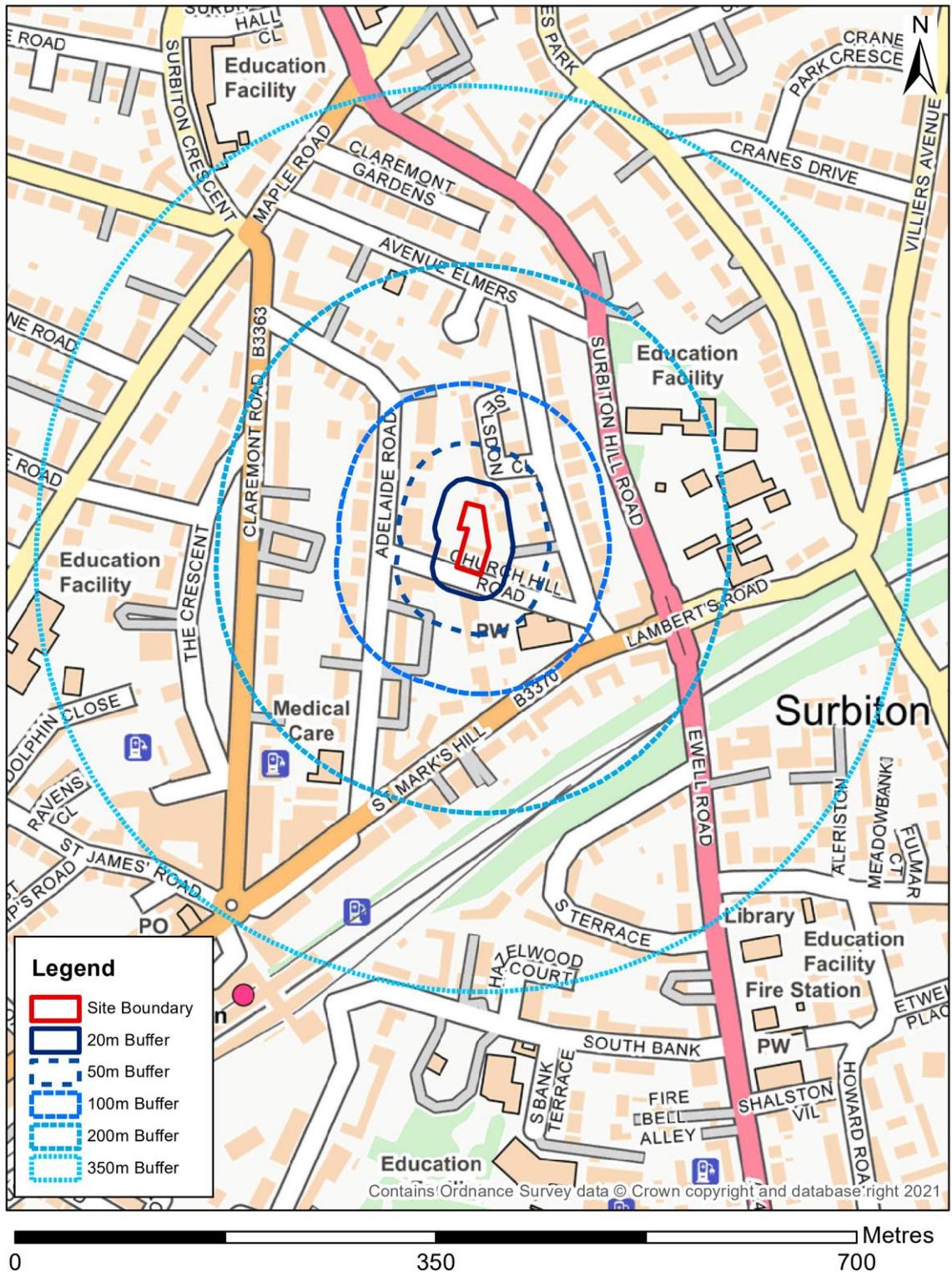


Figure 4.1: Construction Phase Dust Assessment Distance Buffers

Drawn by: ET
 Date: 09/03/2021

Step 2C: Define the Risk of Impacts

- 4.8 The dust emission magnitude determined in Step 2A is then combined with the sensitivity of the area determined in Step 2B to define the risk of dust impacts with no mitigation applied. The results of this assessment are detailed in **Table 4.3**.

Table 4.3: Summary Dust Risk Table to Define Site Specific Risk

Activity	Step 2A: Dust Emission Magnitude	Step 2B: Sensitivity of the Area	Step 2C: Risk of Dust Impacts
<i>Dust Soiling Effects on People and Property</i>			
Demolition	Small	High	Medium Risk
Earthworks	Small	High	Low Risk
Construction	Small	High	Low Risk
Trackout	Small	High	Low Risk
<i>Human Health Impacts</i>			
Demolition	Small	Low	Negligible
Earthworks	Small	Low	Negligible
Construction	Small	Low	Negligible
Trackout	Small	Low	Negligible

Step 3: Site-specific Mitigation

- 4.9 The risk of dust impacts, defined in Step 2C of the assessment, is used to determine the mitigation measures required to minimise the emission of dust during construction phase activities. The IAQM guidance¹¹ provides details of highly recommended and desirable mitigation measures which are commensurate with the risk of dust impacts defined in Step 2C for construction, earthworks and track out activities. Where the mitigation measures are general in nature, the highest risk category was applied in accordance with the guidance¹¹. The highest risk category identified was 'Medium Risk' and the recommended mitigation taken from the IAQM guidance¹¹ is detailed in **Table 4.4** and **Table 4.5**.

Table 4.4: Mitigation Measures for a Medium Risk Site

Category	Mitigation Measures	
	Highly Recommended	Desirable
Communication	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	None
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environmental manager/engineer or the site manager.	
	Display the head or regional office contact information.	
	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority.	
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner and record the measures taken.	None
	Make the complaints log available to the local authority when asked.	
	Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.	
Monitoring	Carry out regular site inspections to monitor compliance with the DMP, record inspections results, and make an inspection log available to the local authority when asked.	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of the site boundary, with cleaning to be provided as necessary.
	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	
Preparing and maintaining the site	Plan the site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	None
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	
	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extended period.	

Category	Mitigation Measures	
	Highly Recommended	Desirable
	Avoid site runoff of water or mud.	
	Keep site fencing, barriers and scaffolding clean using wet methods.	
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	
	Cover, seed or fence stockpiles to prevent wind whipping.	
Operating vehicle/ machinery and sustainable travel	Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable.	Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
	Ensure all vehicles switch off engines when stationary – no idling vehicles.	
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	
	Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.	
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	None
	Ensure an adequate water supply on site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	
	Use enclosed chutes and conveyors and covered skips.	
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	
	Ensure equipment is readily available on site to clean and dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	
Waste Management	Avoid bonfires and burning of waste materials.	None

Table 4.5: Mitigation Measures Specific to Demolition, Earthworks, Construction and Trackout

Category	Mitigation Measures	
	Highly Recommended	Desirable
Demolition (Medium Risk Site)	Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.	Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
	Avoid explosive blasting, using appropriate manual or mechanical alternatives.	
	Bag and remove any biological debris or damp down such material before demolition.	
Earthworks (Low Risk Site)	None	None
Construction (Low Risk Site)	None	Avoid scabbling (roughening of concrete surfaces) if possible.
		Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Trackout (Low Risk Site)	None	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any materials tracked out of the site. This may require the sweeper being continuously in use.
		Avoid dry sweeping of large areas.
		Ensure vehicles entering and leaving the sites are covered to prevent escape of materials during transport.
		Record all inspections of haul routes and any subsequent action in a site log book.
		Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

Step 4: Determine Significant Effects

- 4.10 In accordance with IAQM guidance¹¹ and GLA guidance¹², with the implementation of the mitigation measures detailed above, the residual impacts from the construction phase are considered to be 'not significant'.

5. OPERATIONAL PHASE ROAD TRAFFIC EMISSIONS ASSESSMENT

Impact Screening Assessment

- 5.1 The trip generation for the proposed development was screened using IAQM and EPUK Stage 1 and Stage 2 criteria¹³ to determine whether a detailed air quality assessment was required.

Stage 1

- 5.2 The proposed development comprises more than 10 residential units but does not propose more than 10 parking spaces. The energy strategy for the development includes Air Source Heat pumps only and it was therefore not necessary to proceed to Stage 2 of the IAQM and EPUK guidance criteria for a detailed operational phase assessment.

Site Suitability Assessment

- 5.3 Qualitative consideration was given to the suitability of the Site for the proposed residential use with regard to air quality.
- 5.4 A review of Defra background mapping and RBKC local air quality monitoring data was undertaken to determine baseline air quality conditions in the area.
- 5.5 No background air quality monitoring is undertaken by RBKC within the study area. Background pollutant concentrations were therefore obtained from the latest Defra background concentration maps¹⁷, which are provided for the UK as a 1km x 1km grid network. The latest maps are based on 2018 monitoring and meteorological data. Background concentrations of NO₂, PM₁₀ and PM_{2.5} were obtained for the grid squares covering the Site and surrounding area for 2021 and are detailed in **Table 5.1**.

Table 5.1 Background Pollutant Concentrations used in the Assessment

Pollutant	Grid Square	Location	Concentration ($\mu\text{g}\cdot\text{m}^{-3}$)
			2021
NO ₂	518500, 167500	Grid Square covering the Site	18.0
PM ₁₀			15.7
PM _{2.5}			10.7
NO ₂	518500, 168500	Grid square to the north of the Site	18.7
PM ₁₀			15.9
PM _{2.5}			10.9
NO ₂	519500, 167500	Grid square to the east of the Site	17.0
PM ₁₀			15.5

Pollutant	Grid Square	Location	Concentration ($\mu\text{g.m}^{-3}$)
			2021
PM _{2.5}			10.6
NO ₂	518500, 166500	Grid square to the south of the Site	18.2
PM ₁₀			15.9
PM _{2.5}			10.9
NO ₂	517500, 167500	Grid square to the west of the Site	17.8
PM ₁₀			15.7
PM _{2.5}			10.7

- 5.6 Background pollutant concentrations as detailed in **Table 5.1** were well below the relevant annual mean objectives for NO₂ (40 $\mu\text{g.m}^{-3}$), PM₁₀ (40 $\mu\text{g.m}^{-3}$) and PM_{2.5} (25 $\mu\text{g.m}^{-3}$) in 2021 at the Site and the surrounding area.

Nitrogen Dioxide (NO₂)

- 5.7 RBKC undertakes monitoring within its administrative boundary using a network of automatic monitoring locations and diffusion tubes. The closest monitoring location to the proposed development Site is located at the junction of St Marks Hill and Ewell Road.
- 5.8 Bias adjusted NO₂ monitoring results, for the locations in the vicinity of the proposed development Site, are detailed in **Table 5.2**. Exceedances of the NO₂ annual mean air quality objective are shown in bold.

Table 5.2: RBKC NO₂ Monitoring Data within the vicinity of the Site between 2015 – 2019

Location	Grid Reference		Monitoring Site Type	Distance to Site	Monitored Annual Average Concentration ($\mu\text{g.m}^{-3}$)				
					2015	2016	2017	2018	2019
St Mark's Hill/Ewell Road (6)	518424	167604	Roadside	160m south east	40.8	43.0	37.5	36.4	34.0
Victoria Road (7)	518039	167346	Kerbside	385m south west	50.0	49.0	44.3	43.5	39.8
52 Portsmouth Road (3)	517565	167715	Roadside	690m west	35.1	38.7	34.6	30.7	31.2

Location	Grid Reference		Monitoring Site Type	Distance to Site	Monitored Annual Average Concentration ($\mu\text{g.m}^{-3}$)				
					2015	2016	2017	2018	2019
Victoria Road/ Brighton Road (5)	517765	167143	Kerbside	715m south west	40.6	40.4	35.8	36.9	35.3
88 Brighton Road (4)	517532	167296	Kerbside	810m south west	28.6	32.9	26.5	27.6	26.1

- 5.9 Monitored concentrations in 2019 were below the annual mean air quality objective for NO_2 of $40\mu\text{g.m}^{-3}$ at all monitoring locations in the vicinity of the proposed development Site. There is an overall decreasing trend in NO_2 concentrations over the past five years, for which data was available, in the vicinity of the Site. However, there were exceedances of the annual mean NO_2 objective between 2015 and 2018, at diffusion tubes on Victoria Road and at the junction of Victoria Road and Brighton Road, which are both classed as kerbside locations by RBKC. Kerbside locations are within 1m of the kerb of the road and NO_2 concentrations are likely to be higher at these locations due to the close proximity to the road. The diffusion tube on Victoria Road, is close to Surbiton Railway Station where there are several bus stops and likely to be idling vehicles.

Particulate Matter (PM_{10})

- 5.10 The closest PM_{10} monitoring location to the Site is situated approximately 1.8km north, within Kingston upon Thames town centre. This location is considered to be in an area of higher traffic than the Site, due to its location within the Kingston upon Thames town centre one way system. Therefore, concentrations of PM_{10} at the Site are expected to be lower than the monitored concentration. Monitoring at the Cromwell Road monitor began in 2018 and the monitored concentrations at detailed in **Table 5.3**.

Table 5.3: RBKC PM_{10} monitoring 2018 - 2019

Location	Grid Reference		Monitoring Site Type	Distance to Site	Monitored Annual Average Concentration ($\mu\text{g.m}^{-3}$)	
					2018	2019
Cromwell Road (KT5)	518562	169519	Roadside	160m south east	30.0	26.0

- 5.11 There were no exceedances of the PM_{10} annual mean air quality objective at the Cromwell Road monitoring location in 2018 or 2019. It is therefore considered that concentrations of PM_{10} will be below the annual mean air quality objective for PM_{10} at the Site.

Particulate Matter ($\text{PM}_{2.5}$)

- 5.12 RBKC do not undertake $\text{PM}_{2.5}$ monitoring within their administrative area.

Site Suitability

- 5.13 The Site is located within a residential setting on Church Hill Road, which is not a main A road. The site currently comprises residential use and therefore the development does not result in new areas of residential exposure.
- 5.14 The closest NO₂ monitoring location to the Site, is situated at the junction of St Mark's Hill and Ewell Road (reference 6), and is located approximately 3m from the kerb. While traffic data is not available for Church Hill Road, it is anticipated that this monitoring location will experience higher traffic flows than the Site, due to the proximity to A240 Ewell Road and Surbiton Hill Road. Monitored concentrations at location 6 have not exceeded the annual mean NO₂ air quality objective since 2016, with a monitored annual mean NO₂ concentration in 2019 of 34.0µg.m⁻³. As the Site is not located adjacent to a main A road and is set back approximately 9m from the kerb of the road, concentrations of NO₂ are expected to be lower at the Site than at monitoring location 6 and therefore below the annual mean NO₂ air quality objective.
- 5.15 The closest PM₁₀ monitoring to the Site is located in a more heavily trafficked area in Kingston upon Thames. Monitored concentrations were below the annual mean PM₁₀ air quality objective 2018 and 2019. It is therefore anticipated that PM₁₀ concentrations at the Site will also be below the annual mean PM₁₀ air quality objective.
- 5.16 In addition, the Defra background concentrations for NO₂, PM₁₀ and PM_{2.5} for the grid square of the Site and the surrounding grid squares are all well below the annual mean air quality objectives in 2021.
- 5.17 It is anticipated that NO₂ concentrations at the Site would be below 38µg.m⁻³ and therefore within APEC category A and no mitigation is required to ensure the suitability of the Site for residential use.

Mitigation

- 5.18 The development will be car free, with the provision of two disabled car parking spaces for accessibility purposes proposed within the development. Both disabled car parking spaces will be equipped with Electric Vehicle charging points.
- 5.19 There are 45 cycle parking spaces proposed within the development. The Site is within a highly accessible and sustainable location, with a number of amenities available via sustainable transport options. The Site is well served by sustainable transport modes including good bus, train, cycle and pedestrian facilities within Surbiton.

6. Air Quality Neutral Assessment

- 6.1 The London Plan⁸ requires that all developments are 'air quality neutral' to prevent further deterioration of air quality in London, and promote sustainable development. In order to support this policy, guidance¹⁴ was produced on behalf of the Greater London Authority (GLA) which sets out a methodology for calculating the air quality neutrality of proposed developments.
- 6.2 The methodology provides a means of calculating the total building and transport emissions for the development which are then compared to Building Emission Benchmarks (BEB) and Transport Emission Benchmarks (TEB) generated based on the size, location and type of development proposed.
- 6.3 Developments that do not exceed these benchmarks will avoid any significant increase in NO_x and PM₁₀ emissions across London as a whole and therefore be classed as 'air quality neutral'. Where a development does not meet the 'air quality neutral' benchmarks, after mitigation measures for the development are implemented, developers will be required to off-set emissions off-site.
- 6.4 The Air Quality Neutral Assessment for the proposed development is outlined below.
- 6.5 The air quality neutral calculations used the proposed Gross Floor Area (GFA), emission rates for the proposed on-site energy generating plant and anticipated development vehicle trip rates for the Site, once operational, and are presented in **Table 6.1**.

Table 6.1: Air Quality Neutral Calculation Input Data

Development Details			
Building Emissions	Land Use Class	GFA (m ²)	Location
	C3	1,599	Outer
Transport Emissions	Land Use Class		Annual Total Trips
	C3		1,825

- 6.6 The results of the air quality neutral calculations were then compared to the calculated BEB and TEB for the development. The calculated Benchmarks used in the assessment and the results are provided in **Table 6.2**.

Table 6.2: Air Quality Neutral Assessment Results

Category	Parameter	NO_x (kg/annum)	PM₁₀ (kg/annum)
Building Emissions	Benchmark	41.9	3.6
	Development	0	0
Transport Emissions	Benchmark	37.3	6.4
	Development	7.3	1.3

- 6.7 No building emissions are associated with the development, and there are no boiler or Combined Heat and Power proposed within the development. The development energy requirements will be met by Air Source Heat Pumps.
- 6.8 There are two car parking spaces provided within the development and the daily trip generation is five vehicle movements, the transport emissions associated with the development are therefore significantly lower than the TEB calculated. Overall, the development was considered 'air quality neutral'.

7. CONCLUSIONS

- 7.1 BWB Consulting Limited was appointed by William George Homes Limited to undertake an air quality assessment for a proposed residential development on Church Hill Road, Surbiton.
- 7.2 A qualitative construction phase assessment was undertaken and measures were recommended for inclusion in a DMP to minimise emissions during construction activities. With the implementation of these mitigation measures the impact of construction phase dust emissions is considered to be 'not significant' in accordance with IAQM guidance¹¹ and GLA guidance¹².
- 7.3 An air quality screening assessment was undertaken in accordance with IAQM and EPUK Guidance¹³ to determine the requirement for a detailed road traffic emissions impact assessment. The proposals were compared to the criteria detailed in the guidance. The proposed development did not exceed any of the Stage 2 criteria, therefore the impact was considered to be 'insignificant' in accordance with IAQM and EPUK guidance¹³. A detailed road traffic emissions impact assessment was therefore not undertaken.
- 7.4 Consideration was also given to the suitability of the Site for the proposed residential use. Available Defra background mapped pollutant concentrations and local RBKC monitoring data was reviewed, and consideration given to the location of the Site and the presence of existing pollutant sources. Monitoring data indicated that concentrations of NO₂ were below the relevant air quality objectives considered within the vicinity of the Site and the Site is not located on the main A roads in the area. The Site was therefore considered likely to be within APEC category A and suitable for the proposed residential use with regard to air quality.
- 7.5 An Air Quality Neutral Assessment was undertaken to compare building and transport emissions from the proposed development with GLA benchmarks¹⁴. The development emissions are well below the benchmarks and therefore the development is considered to be 'air quality neutral'.

APPENDICES

APPENDIX A: GLOSSARY OF TERMS

Term	Definition
Air quality objective	Policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances within a specific timescale (see also air quality standard).
Air quality standard	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the effects of each pollutant on human health including the effects on sensitive sub groups (see also air quality objective).
Annual mean	The average (mean) of the concentrations measured for each pollutant for one year. Usually this is for a calendar year, but some species are reported for the period April to March, known as a pollution year. This period avoids splitting winter season between two years, which is useful for pollutants that have higher concentrations during the winter months.
AQAP	Air Quality Action Plan.
AQMA	Air Quality Management Area.
AQS	Air Quality Strategy.
Defra	Department for Environment, Food and Rural Affairs.
Exceedance	A period of time where the concentrations of a pollutant is greater than, or equal to, the appropriate air quality standard.
HDV	Heavy Duty Vehicles, (HGVs + buses)
HGV	Heavy Goods Vehicles.
IAQM	Institute of Air Quality Management.
LAQM	Local Air Quality Management.
LDV	Light Duty Vehicles (motorbikes, cars, vans and small trucks)
NO	Nitrogen monoxide, a.k.a. nitric oxide.
NO ₂	Nitrogen dioxide.
NO _x	Nitrogen oxides.
O ₃	Ozone.
Percentile	The percentage of results below a given value.
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
PM _{2.5}	Particulate matter with an aerodynamic diameter of less than 2.5 micrometres.
micrograms per cubic metre (µg.m ⁻³)	A measure of concentration in terms of mass per unit volume. A concentration of 1µg.m ⁻³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.
UK-AIR	UK Air Information Resource – A source of air quality information provided by Defra.
UKAQS	United Kingdom Air Quality Strategy.

APPENDIX B: PLANNING POLICY AND LEGISLATION

National Planning Policy and Legislation

The UK Air Quality Strategy

European Union (EU) legislation forms the basis of air quality policy and legislation in the UK. The EU 2008 ambient Air Quality Directive¹ sets limits for ambient concentrations of air pollutants including nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}). The air quality standards and objectives are prescribed through the Air Quality (England) Regulations 2000², as amended, for the purpose of the Local Air Quality Management Framework.

The UK Government are required under the Environment Act 1995³ to produce a national Air Quality Strategy (AQS)⁴. The AQS was first published in 1997 and was most recently reviewed and updated in 2007⁵. The AQS provides an overview of the Government's ambient air quality policy and sets out the air quality standards and objectives to be achieved and measures to improve air quality.

Part IV of the Environment Act³ requires local authorities in the UK to review local air quality within their administrative area and, if relevant air quality standards and objectives are likely to be exceeded, designate Air Quality Management Areas (AQMAs). Following the designation of an AQMA, local authorities are required to publish an Air Quality Action Plan (AQAP) detailing measures to be taken to improve local air quality and work towards meeting the relevant air quality standards and objectives.

National Planning Policy Framework

The National Planning Policy Framework (NPPF)⁶ was amended in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.

With regard to assessing cumulative effects the NPPF states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

[...]"

The NPPF recognises air quality within Section 15: Conserving and enhancing the natural environment, and states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

[...]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions

such as air and water quality, taking into account relevant information such as river basin management plans;

[...]

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

[...]

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

Planning Practice Guidance

The Planning Practice Guidance (PPG)⁷ for air quality was updated in November 2019 and provides guiding principles on how the planning process can take account of the impacts of new development on air quality.

The PPG⁷ sets out the following with regard to air quality and planning:

- *"What air quality considerations does planning need to address;*
- *What is the role of plan-making with regard to air quality;*
- *Air quality concerns relevant to neighbourhood planning;*
- *What information is available about air quality;*
- *When could air quality considerations be relevant to the development management process;*
- *What specific issues may need to be considered when assessing air quality impacts;*
- *How detailed does an air quality assessment need to be; and*
- *How can an impact on air quality be mitigated".*

The PPG⁷ sets out the pollutants for which there are legally binding limits for concentrations and those which the UK also has national emissions reduction commitments.

The PPG⁷ states that development plans may need to consider:

- *“what are the observed trends shown by recent air quality monitoring data and what would happen to these trends in light of proposed development and / or allocations;*
- *the impact of point sources of air pollution (pollution that originates from one place);*
- *the potential cumulative impact of a number of smaller developments on air quality as well as the effect of more substantial developments, including their implications for vehicle emissions;*
- *ways in which new development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example, entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan or low emissions strategy where applicable; and*
- *opportunities to improve air quality or mitigate impacts, such as through traffic and travel management and green infrastructure provision and enhancement”.*

The PPG⁷ also states what may be considered relevant to determining a planning application and these include whether a development would:

- *“Lead to changes (including any potential reductions) in vehicle-related emissions in the immediate vicinity of the proposed development or further afield. This could be through the provision of electric vehicle charging infrastructure; altering the level of traffic congestion; significantly changing traffic volumes, vehicle speeds or both; or significantly altering the traffic composition on local roads. Other matters to consider include whether the proposal involves the development of a bus station, coach or lorry park; could add to turnover in a large car park; or involve construction sites that would generate large Heavy Goods Vehicle flows over a period of a year or more;*
- *Introduce new point sources of air pollution. This could include furnaces which require prior notification to local authorities; biomass boilers or biomass-fuelled Combined Heat and Power plant; centralised boilers or plant burning other fuels within or close to an air quality management area or introduce relevant combustion within a Smoke Control Area; or extraction systems (including chimneys) which require approval or permits under pollution control legislation;*
- *Expose people to harmful concentrations of air pollutants, including dust. This could be by building new homes, schools, workplaces or other development in places with poor air quality;*
- *Give rise to potentially unacceptable impacts (such as dust) during construction for nearby sensitive locations;*
- *Have a potential adverse effect on biodiversity, especially where it would affect sites designated for their biodiversity value”.*

The PPG⁷ provides guidance regarding what should be included within an air quality assessment. Examples of potential air quality mitigation measures are also provided.

Local Planning Policy

London Plan 2021

The London Plan⁸ was adopted in March 2021 and sets out a framework for how London will develop over the next 20 – 25 years and the Mayor's visions for Good Growth. The London Plan contains several policies relating to air quality.

"Policy GG3 Creating a healthy city

To improve Londoners' health and reduce health inequalities, those involved in planning and development must:

[...]

- F) seek to improve London's air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution.*

[...]

Policy SD2 Collaboration in the Wider South East

[...]

- E) The Mayor will work with WSE [Wider South East] partners to find solutions to shared strategic concerns such as: barriers to housing and infrastructure delivery (including 'smart' solutions – see also paragraph 9.6.9); factors that influence economic prosperity; the need to tackle climate change (including water management and flood risk); improvements to the environment (including air quality, biodiversity and green infrastructure), waste management, and the promotion of Circular Economies; wider needs for freight, logistics and port facilities; and scope for the substitution of business and industrial capacity where mutual benefits can be achieved.*

[...]

Policy SD4 The Central Activities Zone (CAZ)

[...]

- D) Taking account of the dense nature of the CAZ, practical measures should be taken to improve air quality, using an air quality positive approach where possible (Policy SI 1 Improving air quality) and to address issues related to climate change and the urban heat island effect.*

[...]

Policy D1 London's form, character and capacity for growth

Defining an area's character to understand its capacity for growth

A) Boroughs should undertake area assessments to define the characteristics, qualities and value of different places within the plan area to develop an understanding of different areas' capacity for growth. Area assessments should cover the elements listed below:

5) air quality and noise levels

[...]

Policy D3 Optimising site capacity through the design-led approach

[...]

Experience

[...]

9) help prevent or mitigate the impacts of noise and poor air quality

[...]

Policy E5 Strategic Industrial Locations (SIL)

[...]

D) Development proposals within or adjacent to SILs should not compromise the integrity or effectiveness of these locations in accommodating industrial type activities and their ability to operate on a 24-hour basis. Residential development adjacent to SILs should be designed to ensure that existing or potential industrial activities in SIL are not compromised or curtailed. Particular attention should be given to layouts, access, orientation, servicing, public realm, air quality, soundproofing and other design mitigation in the residential development.

[...]

Policy E7 Industrial intensification, co-location and substitution

[...]

D) The processes set out in Parts B and C above must ensure that:

[...]

3) appropriate design mitigation in any residential element to ensure compliance with 1 above with particular consideration given to:

f) air quality, including dust, odour and emissions and potential contamination.

[...]

Policy SI 1 Improving air quality

- A) *Development Plans, through relevant strategic, site-specific and area-based policies, should seek opportunities to identify and deliver further improvements to air quality and should not reduce air quality benefits that result from the Mayor's or boroughs' activities to improve air quality.*
- B) *To tackle poor air quality, protect health and meet legal obligations, the following criteria should be addressed:*
- 1) *Development proposals should not:*
 - a. *Lead to further deterioration of existing poor air quality;*
 - b. *Create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits;*
 - c. *Create unacceptable risk of high levels of exposure to poor air quality.*
 - 2) *In order to meet the requirement in Part 1, as a minimum:*
 - a. *Development proposals must be at least Air Quality Neutral;*
 - b. *Development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retro-fitted mitigation measures;*
 - c. *Major development proposals must be submitted with an Air Quality Assessment. Air quality assessments should show how the development will meet the requirements of B1;*
 - d. *Development proposals in Air Quality Focus Area or that are likely to be used by large numbers of people particularly vulnerable to poor quality, such as children or older people should demonstrate that design measures have been used to minimise exposure.*
- C) *Masterplans and development briefs for large-scale development proposals subject to an Environmental Impact Assessment should consider how local air quality can be improved across the area of the proposal as part of an air quality positive approach. To achieve this a statement should be submitted demonstrating:*
- 1) *How local proposals have considered ways to maximise benefits to local air quality; and*
 - 2) *What measures or design features will be put in place to reduce exposure to pollution, and how they will achieve this.*
-

- D) *In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emissions Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.*
- E) *Development proposals should ensure that where emissions need to be reduced to meet requirements of Air Quality Neutral or to make the impact of development on local air quality acceptable, this is done on-site. Where it can be demonstrated that emissions cannot be further reduced by on-site measures, off-site measures to improve local air quality may be acceptable, provided that equivalent air quality benefits can be demonstrated within the area affected by the development.*

Policy SI 3 Energy infrastructure

[...]

- D) *Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system:*

[...]

- 2) *CHP and ultra-low NOx gas boiler communal or district heating systems should be designed to ensure that they meet the requirements of Part B of Policy SI 1 Improving air quality.*

[...]

Royal Borough of Kingston upon Thames Core Strategy

The Core Strategy⁹ was adopted by RBKC in April 2012 and is the development plan for the borough up to 2027.

“Policy CS 1

Climate Change Mitigation

The Council will:

[...]

b. ensure that all development (including extensions, refurbishments and conversions) is designed and built to make the most efficient use of resources, reduce its lifecycle impact on the environment and contribute to climate change mitigation and adaptation by:

[...]

- reducing levels of pollution; air, water, noise and light*

[...]

Policy DM1

Sustainable Design and Construction Standards

[...]

*New development should minimise air, noise and contaminated land impacts
in line with industry best practice*

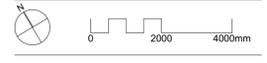
[...]"

The above policies were taken into consideration throughout the undertaking of the assessment.

APPENDIX C: PROPOSED DEVELOPMENT MASTERPLAN



NOTES:
 This document and its design content is copyright ©. It shall be read in conjunction with all other associated project information including models, specifications, schedules and related consultants documents. Do not scale from documents. All dimensions to be checked on site. Immediately report any discrepancies, errors or omissions on this document to the Originator. If in doubt ASK.



01	For Planning	IS	PM	23/07/2021
REV	DESCRIPTION	DRAWN	CHECKED	DATE
CREATE				
DESIGN + ARCHITECTURE				
Wigglesworth House 69 Southwark Bridge Road London SE1 9HH				
444 207 021 0287 info@createdesign.org www.createdesign.org				
CLIENT:	WILLIAM GEORGE GROUP			
PROJECT:	COURT ROYAL AND RED ROOFS			
BUILDING:	CHURCH HILL ROAD			
ADDRESS:	K7E 4UG			
DRAWING NAME:	GROUND FLOOR SITE PLAN			
DRAWING SERIES:	0000-0199 PLANNING PLANS			
CDA REF:	SCALE(S)	ORIGINAL PAPER SIZE:		
566	1:200	A1		
REVISION:	REVISION DESCRIPTION:			
01	For Planning			
PROJECT ORIGINATOR	VOLUME	LEVEL	TITLE	ROLE CLASS NUMBER
566 - CDA	- ZZ	- 00	- DR	- A - 05 - 0100



BETTER SOLUTIONS, INTELLIGENTLY ENGINEERED

