# 369–377 Kentish Town Road

## Air Quality Neutral Statement

March 2019

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# Document Control

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## Executive Summary

This is a development of 14 new dwellings in a congested area between Euston mainline railway station and the busy Kentish Town, Highgate and Holloway interchange junction.

All London boroughs have poor air quality at some point during the year, and it is extremely important that new developments do not contribute towards increasing the urban $NO_x$ and particulate levels.

There are no schools, care homes or area's with sensitive ecological features within 200m of the site, which could be consider as a sensitive receptor.

### Background Air quality

The background DEFRA mean annual air quality prediction is influenced by the proximity of the main line railway into Euston and busy Kentish Town road interchange which results in higher predicted airborne particulates and annual NOx mean target being exceeded.

This report recommends the use of mechanical whole house ventilation with suitable a pre-filter to remove $PM_{10}$ and $PM_{2.5}$ particles, and Active Carbon filter to remove $NO_x$

It is advisable to design dwelling with openable windows as the occupants should have the ability to control the method of ventilation within their dwelling.

### Air Quality Neutral

The air quality neutral calculation method is designed to simplify the air quality calculation to assess the impact of the development upon the local air quality.

The air quality neutral assessment considers the building heating equipment emission and transport emissions.

#### *Heating emission*

The energy and sustainability proposal include communal heating system communal heating system will include centralised ultra-low $NO_x$ boilers in combination with heat-interface units and connected to smart energy meters within the dwellings.

Modern energy efficient boilers use sophisticate burner controls which monitor flue gasses and as result have extremely low $NO_x$ emission (less than 30µg /kwh) compared with older / larger boilers.

#### *Transport Emissions*

CA limited transport statement has not included a prediction of vehicle movements but has concluded that the development will have no material impact on the local transport network, and is in accordance with relevant adopted national, regional and local transport policy guidance. The development does not includes any additional car parking spaces and cycle storage as the location has extremely good public transport links.

## Construction Site Dust Risk Analysis

The site is located on busy road and here are no sensitive receptors within 200m, the neighbouring building are retail commercial units with office, storage or residential units above.

The construction site analysis suggests that dust emission risk levels is low, however the contractor will be required to produce construction site method statement in which the contractor list out the following measure to reduce site dust emissions:

- Use water sprays during demolition of remaining structures on site
- Use Low emission construction plant and machinery
- Shroud the building during the construction of concrete frame and external walls
- Provide vehicle wheel cleaning for vehicles exiting the site
- Limit the time and number deliveries to site

There are no ecological features that could be affected by the construction process.

The report has calculated that the site has low risk to sensitive receptors. The continual automated monitoring of dust emission from site is not required.

# 2 Introduction

2.1 Peter Deer and Associates is retained by the Applicant to provide desk top study of local background air quality with regard to their proposal at 369-377 Kentish Town Road, NW5 2TJ, in the London Borough of Camden (LBC).

2.2 The purpose of this document is to outline the likely impact of this development upon the local air quality, through a desk top study to assess:

- Predicated Mean Annual Background Air Quality (DEFRA Data)
- Air quality Neutral for building heating emission and transport
- Construction dust risk assessment

## Site

2.3 The site is formally allocated for redevelopment within the Neighbourhood Plan buildings and the site occupies 00.34ha bounded to the south by the main railway passing through Kentish Town and Kentish Town Road.

| | |
|---|---|
| OS X (Eastings) | 528986 |
| OS Y (Northings) | 185142 |
| Nearest Post Code | NW5 2TJ |
| Lat (WGS84) | N51:33:02 (51.550433) |
| Long (WGS84) | W0:08:28 (-0.141075) |
| Lat,Long | 51.550433,-0.141075 |
| Nat Grid | TQ289851 / TQ2898685142 |
| *mX* | -15704 |
| *mY* | 6685757 |
| Mapcode | GBR DV.YZY |

**Table 1 Site Map Co-ordinates**

2.4 The proposed development is for 14 residential units with a ground floor non-domestic speculative retail unit

2.5 The site location is in Kentish Town Road will require the contractor to provide details Air Quality Dust Management Plan (AQDMP). As full design of the building has not been completed and the proposed construction method is yet to be finalised, it is not possible to provide a details dust management plan at this time.


**Figure 1 Site Location**

## Local Receptors Close to the Proposed Development

The proposed development is on the exposed of corner of Kentish Town Road, and the main line railway line into Euston. Figure 2, and Figure 4 show that there are no schools, hospital or care homes within 200m. Figure 3 show the street which show the retail buildings with dwelling above.

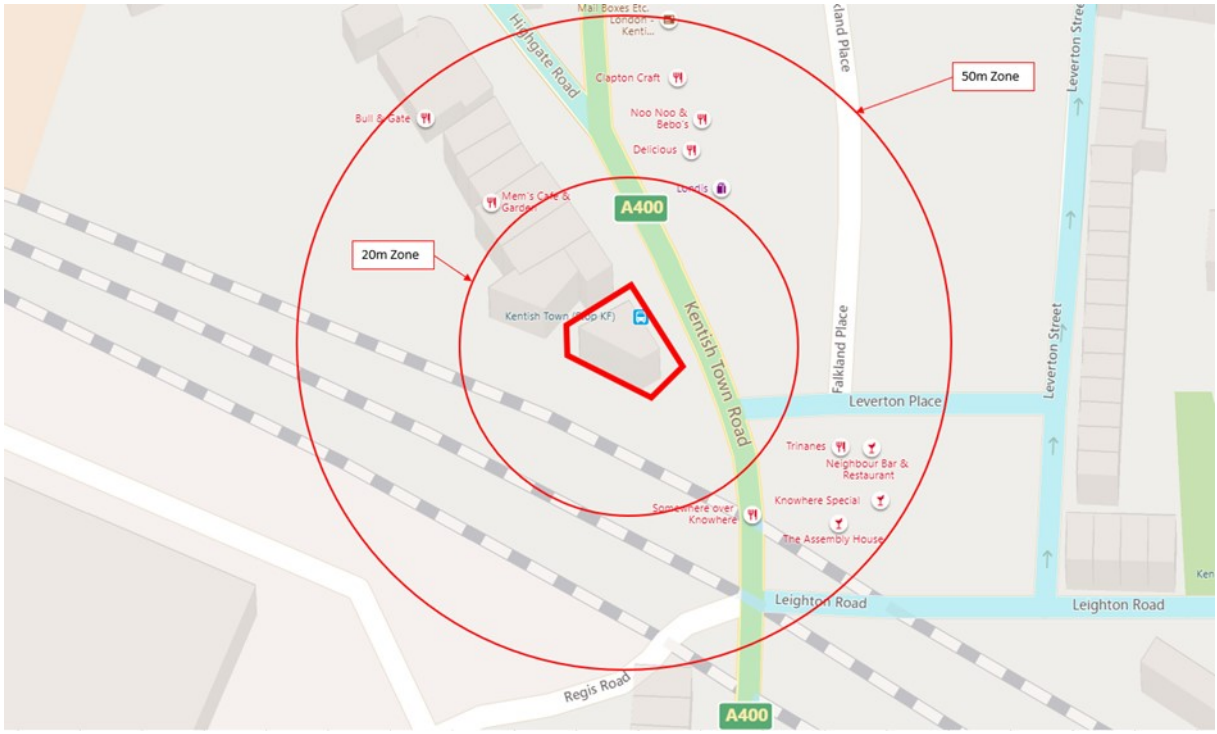



**Figure 2 Receptor Close the Site.**


Figure 3 Kentish Town Road Street Scene.(Source : Design and Access Statement)

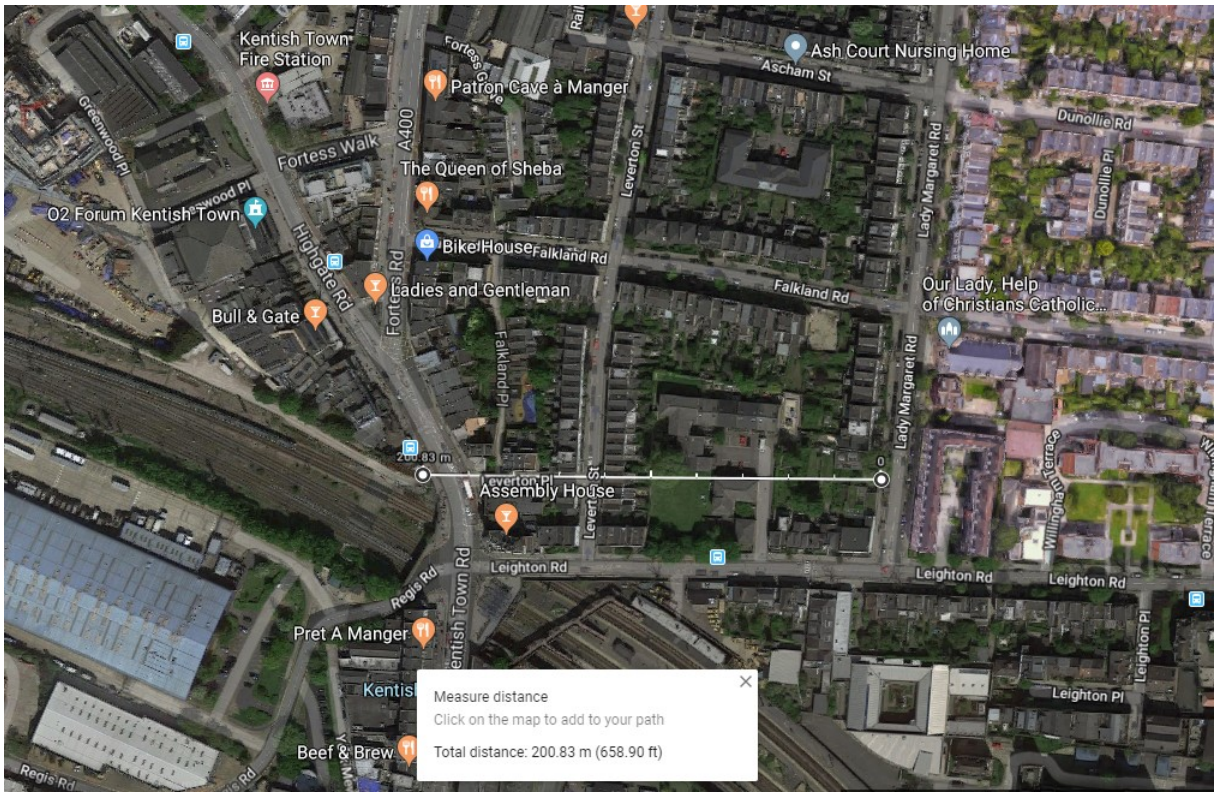



Figure 4 Satellite Picture from Google Maps

## Accommodation schedules

| Ref | No of units | Type | Floor Area | Levels |
|---|---|---|---|---|
| | 1 | Speculative Retail /office | 170 m² | Basement and Ground Floor |
| Type 1 | 4 | 1B2P | 50 m² | Floor 1,2,3 &4 |
| Type 2 | 4 | 2B4P | 75 m² | Floor 1,2,3 &4 |
| Type 3 | 4 | 2B4P | 70 m² | Floor 1,2,3 &4 |
| Type 4 | 1 | 2B3P | 84 m² | Floor 5 |
| Type 5 | 1 | 2B3P maisonette | 96 m² | Floor 5 & 6 |

Table 2 Accommodation Schedule.

## Public Transport Facilities

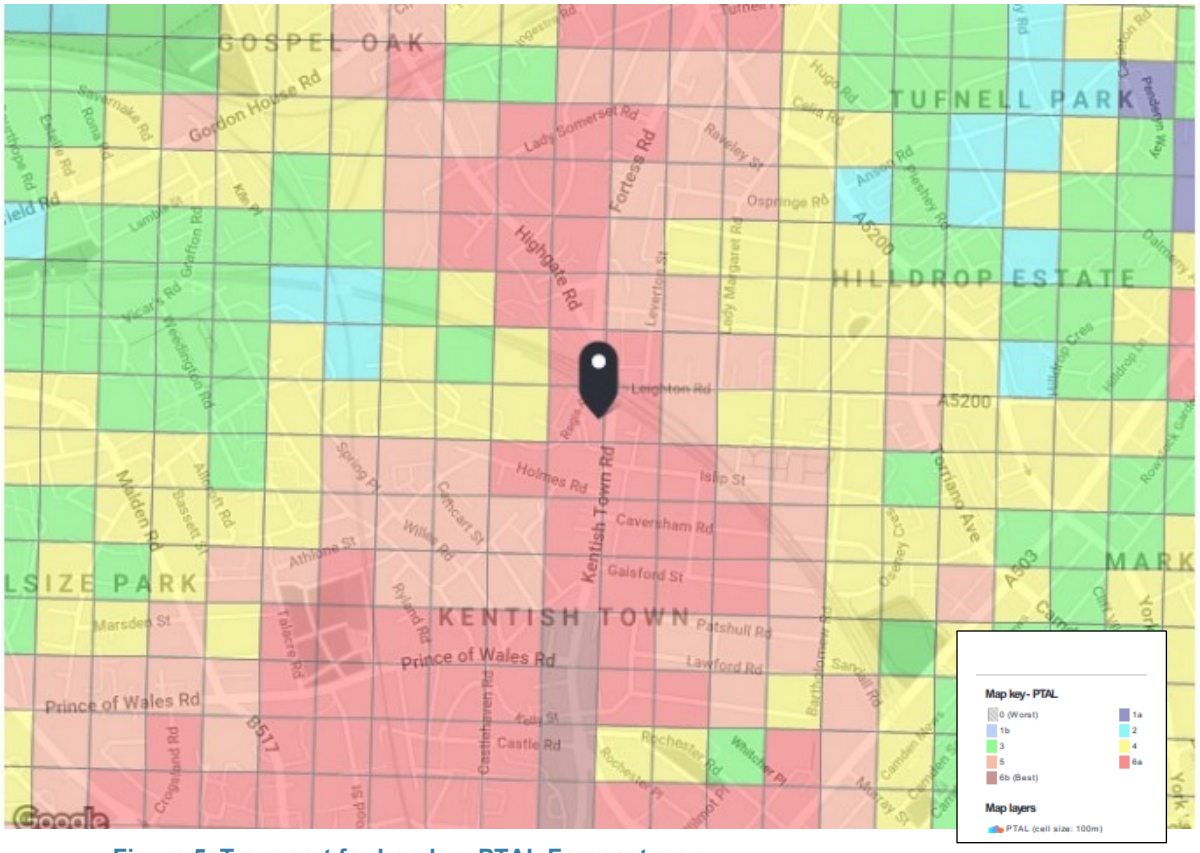



Figure 5 Transport for London. PTAL Forecast map.

2.6 PTAL output for 2021 (Forecast) 6a which second highest.

| Variable | value | Variable | value |
|---|---|---|---|
| Day of Week | Monday to Friday | Bus Reliability Factor 2.0 | |
| Time Period | AM Peak | London Underground Station Walking Access Time | 12 minutes |
| Walking Speed | 4.8 km/h | London Underground Reliability Factor | 0.75 |
| Bus Node maximum walking distance | 8 minutes | National Rail Station walking access time | 12 minutes |
| Bus reliability | 2.00 | National Rail Reliability Factor | 0.75 |

**Table 3 PTAL Calculation Parameters**

Caneparo Associates limited *369-377 Kentish Town Road, Transport Statement (February 2019)*. This report make the following conclusion.

> *In conclusion, it is considered that the development proposal is appropriate for the location, will have no material impact on the local transport network, and is in accordance with relevant adopted national, regional and local transport policy guidance.*

# 3 Policy and context

## The London Plan

3.1 Since December 1997 each local authority in the UK has been carrying out a review and assessment of the air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives will be achieved throughout the UK. These objectives have been put in place to protect people's health and the environment. All London boroughs have air quality problems and are in an Air Quality Management Areas, and as a result, all new major planning applications are required to assess the impact of the proposed new development on the local air quality.

3.2 Air quality is frequently a material planning consideration for major developments in Greater London, and the planning process presents useful opportunities to reduce the impacts of the development and to work towards achieving the UK air quality objectives and the EU limit values. It also presents an opportunity to reduce exposure to “non-threshold” pollutants such as $PM_{2.5}$. All London boroughs have produced air quality improvement plans and published the air quality data progress reports.

3.3 London’s air quality problems are primarily a result of a very large number of sources each contributing a small amount. In light of these issues, both the London Plan and the 2010 Mayor’s Air Quality Strategy (MAQS) make reference to new developments being “air quality neutral”. The London Plan states:

- Developers are to design their schemes so that they are at least ‘air quality neutral’. London Plan policy 7.14
- Developments should be designed to minimise the generation of air pollution. London Plan policy 5.3, 7.14
- Developments should be designed to minimise and mitigate against increased exposure to poor air quality. London Plan Policies 3.2, 5.3, 7.14
- Developers should select plant that meets the standards for emissions from Combined Heat and Power and biomass plants set out in Appendix 7. London Plan policy 7.14
- Developers and contractors should minimising dust and emissions from construction and demolition SPG when constructing their development. London Plan policy 5.3, & 7.14

3.4 Air quality impact assessments are generally undertaken for developments focusing on the incremental change in local pollutant concentrations associated with the scheme. However, individual developments, even in Greater London, typically generate only small changes to pollutant concentrations, categorised as “Negligible” or “Slight Adverse” using the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK) significance criteria. In addition, the air quality assessments often focus on traffic-related impacts alone, and ignore emissions associated with the future operation of CHP/CCHP/boiler plant.

Furthermore, the cumulative impacts of several developments are rarely characterised in any detail, leading to potential concerns with regards to a “creeping baseline”.

## Policy 7.14 Improving Air Quality

### Strategic

1. *The Mayor recognises the importance of tackling air pollution and improving air quality to London’s development and the health and well-being of its people. He will work with strategic partners to ensure that the spatial, Climate Change, transport and design policies of this plan support implementation of his Air Quality and Transport strategies to achieve reductions in pollutant emissions and minimize public exposure to pollution.*

### Planning Decisions

2. *Development proposals should:*

    i. *minimise increased exposure to existing poor air quality and make provision to address local problems of air quality such as by design solutions, buffer zones or steps to promote greater use of sustainable transport modes through travel plans (see Policy 6.3). This, particularly within Air Quality Management Areas (AQMAs) and where development is likely to be used by large numbers of those particularly vulnerable to poor air quality, such as children or older people.*
    ii. *promote sustainable design and construction to reduce emissions from the demolition and construction of buildings following the best practice guidance in the GLA and London Councils’ - ‘The Control of Dust and Emissions from Construction and Demolition’*
    iii. *Be at least ‘air quality neutral’ and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMAs)).*
    iv. *Ensure that where provision needs to be made to reduce emissions from a development, this is usually made on-site. Where it can be demonstrated that on-site provision is impractical or inappropriate, and that it is possible to put in place measures having clearly demonstrated equivalent air quality benefits, planning obligations or planning conditions should be used as appropriate to ensure this, whether on a scheme by scheme basis or through joint area-based approaches*
    v. *Where the development requires a detailed air quality assessment and biomass boilers are included, the assessment should forecast pollutant concentrations. Permission should only be granted if no adverse air quality impacts from the biomass boilers are identified*

### LDF preparation

3. *Boroughs should have policies that:*

i. *seek reductions in levels of pollutants referred to in the Government's National Air Quality Strategy having regard to the Mayor's Air Quality Strategy*
ii. *Take account of the findings of their Air Quality Review and Assessments and Action Plans, in particular where Air Quality Management Areas have been designated.*

3.5 Poor air quality is a public health issue that is linked to the development of chronic diseases and can increase the risk of respiratory illness. Action is needed to improve air quality in London and the Mayor is committed to working towards meeting the EU limit values of fine particulate matter (PM10) by 2011 and nitrogen dioxide (NO2 ) by 2015. The Mayor's Air Quality Strategy sets out policies and proposals to address the full range of these air quality issues reducing emissions from transport, reducing emissions from homes, businesses and industry and increasing awareness of air quality issues. For example the Low Emission Zone (LEZ) will continue to deliver health benefits by reducing emissions from the oldest heavy diesel engine vehicles. The strategy also included proposals to extend the LEZ to heavier vans and mini buses from 2012 and to introduce a new standard for nitrogen oxides (NOx) in 2015. Other transport policies that contribute to achieving these limit values address:

- Encouraging smarter choices and sustainable travel behaviour.
- Promoting technological change and cleaner vehicles.
- Reducing emissions from public transport and public transport fleets.

3.6 The London Plan policies specifically address the spatial implications of the Air Quality Strategy and, in particular, how developments and land use can help achieve its objectives. In this Air Quality Strategy (December 2010), the Mayor also encourages local authorities to publish supplementary planning documents to ensure that air quality is fully embedded within the planning process. The Mayor will also use the Local Implementation Plan (LIP) process to ensure that air quality improvement measures are included in borough transport plans. The Air Quality Strategy includes a mechanism for boroughs to set appropriate emissions reduction targets that will assist in setting out the process, for the offsetting of negative air quality impacts from developments where required. The detailed air quality assessments that are required for certain types of developments will assist in this process. The GLA will develop a checklist to guide boroughs and developers in the assessment of potential emissions from the development.

3.7 The GLA and London Council's Best Practice Guidance on 'The Control of Dust and Emissions from Construction and Demolition' provides one mechanism by which planning can address such issues. It is proposed that this guidance will be reviewed, with a view to it being consulted on and published, as supplementary guidance to the London Plan.

3.8 Recently concerns have been raised over the air quality effects of biomass boilers. The Mayor expects an air quality assessment to be undertaken where planning applications are submitted that include proposals for biomass boilers.

3.9 Increased exposure to existing poor air quality should be minimised by avoiding the introduction of potentially new sensitive receptors in locations where they will be affected by existing sources of air pollution, (such as road traffic and industrial processes). Particular attention should be paid to development proposals such as housing, homes for elderly people, schools and nurseries. Where additional negative air quality impacts from new developments are identified, mitigation measures will be required to ameliorate these impacts. This approach is consistent with PPS 23 (Planning and Pollution Control). These could include on-site measures such as design solutions, buffer zones and smarter travel measures that support and encourage sustainable travel behaviours. Where it can be clearly shown that on-site mitigation measures are impractical or inappropriate, and where measures having clearly demonstrated equivalent air quality benefits could be taken elsewhere, local planning authorities should use their planning powers to ensure this. The Mayor will produce guidance to assist boroughs in developing supplementary planning policies.

## London Borough of Camden Air Quality Planning Guidance

3.10 The AQA needs to consider measures to reduce any impact to acceptable levels. This should be proportionate to the scale and type of development. You must submit more detailed AQAs for major applications where the occupants will be exposed to poor air quality where the development is located along a busy road, diesel railway lines, or generally congested area. Developments that introduce sensitive receptors (i.e. housing, schools) in locations of poor air quality will not be acceptable unless designed to mitigate the impact. Air Quality Assessments must outline the predicted and forecast pollutant concentrations at the proposed development and the planned mitigations. Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA. Where the AQA shows that a development would cause harm to air quality, the Council will not grant planning permission unless measures are adopted to mitigate the impact.

3.11 Where it is clear from the initial specification of the development that it is likely that the development will have a minimal impact on air quality but an air quality assessment may still be required (e.g., within an AQMA), developers may wish to consider identifying air quality mitigation measures from the start as part of the development, instead of undertaking a full air quality assessment. This course of action is at the discretion of the local authority Air Quality Officer, and so it is important that communication between developers, or their consultants, and the local authority takes place at an early stage of the decision making process. This does not apply to applications where an EIA under the town and country planning regulatory regime is required.

3.12 Where developments take place in an AQMA, mitigation measures should be considered as standard practice, particularly in cases where the development is new and does not replace

an existing use. This is especially important where the development has provision for a large number of parking spaces, significantly increasing the number of trips, and/or heating plant.

- Locality of development – including relevant exposure;
- Length of time and scale of demolition/construction phase;
- Likely increase in traffic levels from existing base (either through servicing or parking requirements);
- New industrial development (e.g., boiler plant/energy production/permitted installations/authorised processes);
- Size of development - residential/commercial floor space or number of units;
- Street canyons and stationary or queuing traffic;
- Increase in HDV movements (e.g., more than 20 per day), such as for lorry parks, depots, bus stations;
- New rail, road building and signalling, bridge, tunnel, port or airport developments;
- Waste handling activities.

## London Borough of Camden Policies

3.13 Improving local air quality, mitigating the impact of development on air quality and reducing exposure to poor air quality in the borough is vital in safeguarding public health and the environment. The focus of Policy CC4 is to mitigate the impact of development on air quality and to ensure exposure to poor air quality is reduced in the borough.

3.14 It is recognised that parts of Camden have some of the poorest air quality levels in London and since 2000 the whole of the borough has been declared an Air Quality Management Area (AQMA) for both NO2 (Nitrogen Dioxide) and PM10 (Particulate Matter). Camden is also working to assess and address PM2.5 (the smallest fraction of particulate) because despite Camden meeting EU limit values for PM2.5, research suggests that particulates of this size have the worst health impacts. Air pollution is associated with a number of adverse health impacts, and it particularly affects the most vulnerable in society.

***Policy CC4 Air quality***

*The Council will ensure that the impact of development on air quality is mitigated and ensure that exposure to poor air quality is reduced in the borough.*

*The Council will take into account the impact of air quality when assessing development proposals, through the consideration of both the exposure of occupants to air pollution and the effect of the development on air quality. Consideration must be taken to the actions identified in the Council's Air*

***Quality Action Plan.***

*Air Quality Assessments (AQAs) are required where development is likely to expose residents to high levels of air pollution. Where the AQA shows that a development would cause harm to air quality, the Council will not grant planning permission unless measures are adopted to mitigate the impact. Similarly, developments that introduce sensitive receptors (i.e. housing, schools) in locations of poor air quality will not be acceptable unless designed to mitigate the impact.*

*Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts to the neighbourhood.*

*Planning permission will not be granted for development that would lead to a reduction in air quality.*

### Reasons

3.15 *The Air Quality Management Area (AQMA) identifies where in Camden levels of air quality are below national standards. The LPA has a responsibility to reduce activities which cause air pollution in order to contribute to achieving national air quality objectives. Camden's Air Quality Strategy and Improvement Plan contain policies and measures to improve the air quality in Camden including measures that address the emissions from industry, construction, domestic properties, and traffic. The strategy also promotes modal shifts towards public transport and low and zero emission vehicles and raises awareness of air quality issues. It identifies planning policies to be a key action in improving local air quality through influencing developments to consider air quality impacts.*

## Air Quality Neutral

3.16 The Mayor of London has published extensive guidance to ensure that major London developments achieve the London boroughs air quality targets, for full details follow the link below:

https://www.london.gov.uk/priorities/environment/clearing-londons-air/useful-documents

3.17 Air Quality Neutral Planning Support Document: GLA80371 April 2014 outlines the basic methodology to calculating both the building's heating and transport, comparative emissions target, below which a development can be considered Air Quality Neutral.

## Mechanisms for Offsetting

3.18 In circumstances where the benchmark is exceeded, mitigation measures to reduce emissions may be applied on-site or off-site. Where this is not practical or desirable, some form of pollutant offsetting could be applied. One route would be to enforce the necessary "air quality neutral" measures via a Section 106 agreement or via the Community Infrastructure Levy (CIL). The potential use for the CIL is, however, restricted, in that even though the CIL will be used to fund infrastructure from April 2014 (earlier for London Boroughs that have adopted it), the charges will be determined by floor space alone, and it would not be possible to distinguish between developments that meet the benchmarks and those that do not.

3.19 Section 106 agreements are, however, still permitted for site-specific, non-infrastructure mitigation measures, without which a development should not be granted planning permission. Under this approach, there would effectively be a charge for each kg of pollutant emitted that is over and above the benchmark emission for that development.

# 4 Background Average Air Quality

4.1 In many situations the background contribution may represent a significant proportion of the total pollutant concentration. A good understanding of background concentrations is important when completing air quality assessments as it allows for a good understanding of the local pollutant sources.

4.2 The DEFRA Air Pollution Background Concentration Maps are provided to estimate the average background annual concentrations for specific pollutants. These can then be used in air quality assessments to better understand the contribution of local sources to total pollutant concentrations. They provide information on how pollutant concentrations change over time and across a wide area; they also provide an estimated breakdown of the relative sources of pollution.

4.3 The total concentration of a pollutant comprises those from explicit local emission sources such as, roads, chimney-stacks, etc., and those that are transported into an area by the wind from further away. If all the local sources were removed, all that would remain is that which comes in from some distance; it is this component that is called 'background'.

4.4 The maps allow for the assessment of new pollutant sources that are introduced into an area and the impact they may have upon local air quality.

4.5 http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2011

## Background Air Quality Targets

4.6 Schedule 2 of the Air Quality Regulations 2010 requires the average annual backgrounds NO2 levels to be less than 40µg/$m^3$. If the Urban site exceeds this target it may be necessary to provide additional clean ventilation air paths into the apartments.

| | Annual | Hourly |
|---|---|---|
| PM2.5 | 10 µg/$m^3$ annual mean | 25 µg/$m^3$ 24-hour mean |
| PM10 | 20 µg/$m^3$ annual mean | 50 µg/$m^3$ 24-hour mean |
| O3 | 100 µg/$m^3$ 8-hour mean | |
| NO2 | 40 µg/$m^3$ annual mean | 200 µg/$m^3$ 1-hour mean |
| SO2 | 20 µg/$m^3$ 24-hour mean | 500 µg/$m^3$ 10-minute mean |

**Table 4 Air Quality Objectives included in Regulations for the purpose of LAQM in England (DEFRA)**

### *Background Map*

4.7 The 1x1 km background maps are made up of several components which are modelled separately and then added together to make the final grid. In order to ensure that these ambient concentrations from area sources are representative of the real world situation, they are validated against measurements taken from the national networks. After the validation

has been completed the large points, small points, distant sources and area source components are added together to provide the final background map.

## NOx, NO2, PM10 and PM2.5 Background Maps

4.8 Air pollution background concentration maps are published by Defra and the Devolved Administrations to assist local authorities in carrying out review and assessment of local air quality as part of their duties under the Environmental Act 1995.

4.9 The main purpose of the background maps is to provide estimates of background concentrations for specific pollutants. These can then be used in air quality assessments to better understand the contribution of local sources to total pollutant concentrations. They provide information on how pollutant concentrations change over time and across a wide area; they also provide an estimated breakdown of the relative sources of pollution. The maps allow for the assessment of new pollutant sources that are introduced into an area and the impact they may have upon local air quality.

4.10 Background maps are updated by Defra periodically due to updates to underlying data, including emissions factors. Local authorities should use the most up-to-date data and supporting tools made available. (The current 2015 reference year background maps).

4.11 Users of the 2015 reference year background maps in Central London should be aware that the impact of the Ultra-Low Emission Zone (ULEZ) from 2020 onwards is now included by default - users no longer need to adjust the data to account for the ULEZ.

4.12 Year 2015-based background maps are adjusted from years between 2011 to 2030 are available for NOx, NO2, PM10 and PM2.5 Total predicted annual mean concentrations based on 1 km x 1 km grid squares is provided for each year up to 2030, and is adjusted for local transport

4.13 Year 2011-based background maps for NOx, NO2, PM10 and PM2.5

4.14 Location Co-ordinates

- OS X (Eastings) 528986
- OS Y (Northings) 185142

| NO2 | 527900 | 528900 | 529900 |
|---|---|---|---|
| 186200 | 20.30 | 21.99 | 26.70 |
| 185200 | 26.67 | 26.74 | 26.70 |
| 184200 | 26.33 | 27.55 | 29.84 |

| Nox | 527900 | 528900 | 529900 |
|---|---|---|---|
| 186200 | 29.39 | 32.35 | 40.87 |
| 185200 | 41.00 | 41.18 | 40.89 |
| 184200 | 40.25 | 42.53 | 47.03 |

| PM10 | 527900 | 528900 | 529900 |
|---|---|---|---|
| 186200 | 15.20 | 16.11 | 18.24 |
| 185200 | 17.22 | 17.25 | 18.34 |
| 184200 | 17.73 | 18.45 | 19.09 |

| Pm2.5 | 527900 | 528900 | 529900 |
|---|---|---|---|
| 186200 | 9.81 | 10.27 | 11.35 |
| 185200 | 10.95 | 10.95 | 11.43 |
| 184200 | 11.09 | 11.44 | 11.89 |

**Table 5 DEFRA Background predicted annual average Air Quality Levels. (Base Yr. 12015)**

http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html

| | Site | Target | Comments |
|---|---|---|---|
| NO2 | 26.74 | 40 | Pass |
| N0X | 41.18 | | |
| PM2.5 | 10.95 | 10 | Fail |
| PM10 | 17.25 | 18.95 | pass |

**Table 6 Predicted Background Annual Mean Air Quality 2019**

4.15 The site is located to a nearby commuter rail line, which results a higher-level prediction of airborne particulates ($PM_{10}$ &$PM_{2.5}$). This slightly exceeds the GLA Air Quality annual mean targets for particulates.

4.16 The development proposals include Whole House Ventilation (individual per dwelling) which includes filters designed to remove $PM_{10}$ particles. The design also includes double glazed sealed windows, which will reduce external noise and allow the occupants to control their ventilation as required.

4.17 The site lower prediction of NO2 and NOx levels than the GLA Air Quality annual mean targets. The levels of NOx gases will improve over time as reflection of the cleaner emission from vehicles, and industry. This not consider major air quality risk for this part of London.

## Kentish Town Road Side Diffuision Tube Data

4.18 Diffusion tubes take samples over an approximately 1 month period. As such they are useful for assessing the annual objective of 40µg/$m^3$ ,but cannot be used to assess the number of hours greater than 200µg/$m^3$. As they are not the reference method, and passive diffusion typically results in a low accuracy, it is necessary to bias correct the results based upon local or national collocation studies with chemiluminescent analysers.

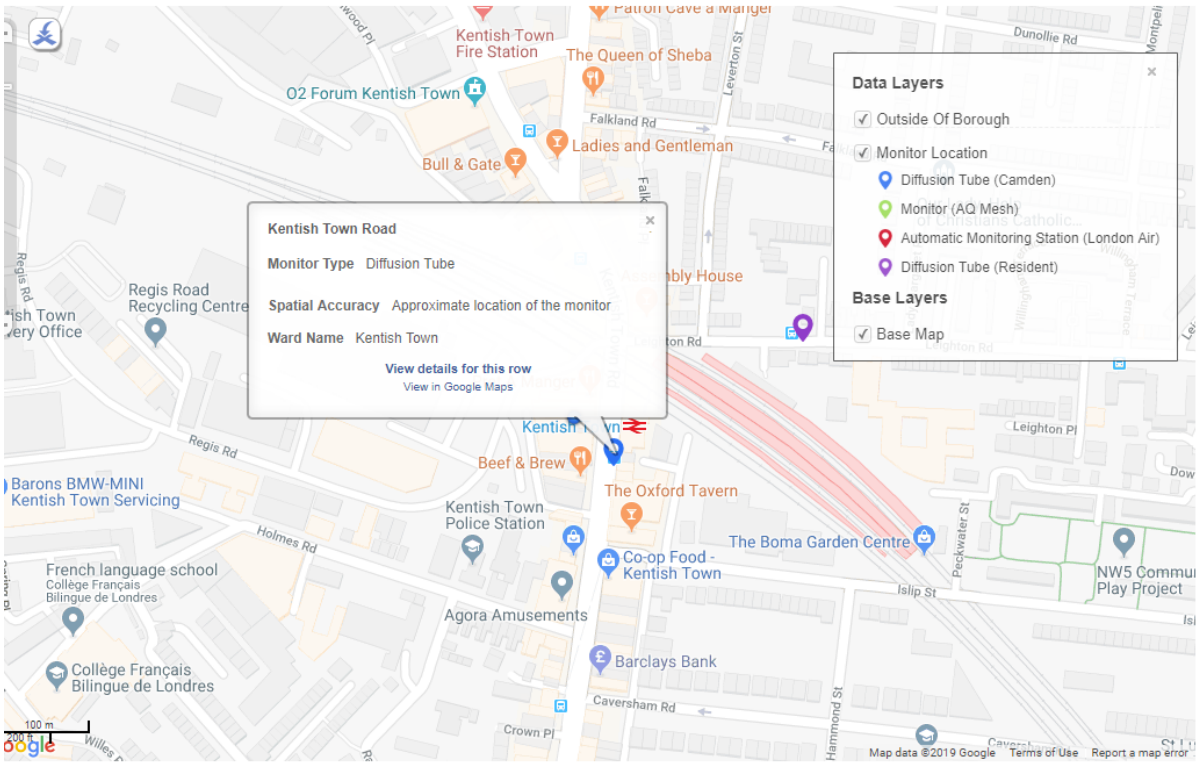



**Figure 6 location of Air Quality monitoring sites proximity to the Development**

4.19 This dataset contains Nitrogen Dioxide readings from a range of diffusion tubes across the London Borough of Camden. Diffusion tubes are often used for indicative monitoring of ambient nitrogen dioxide.

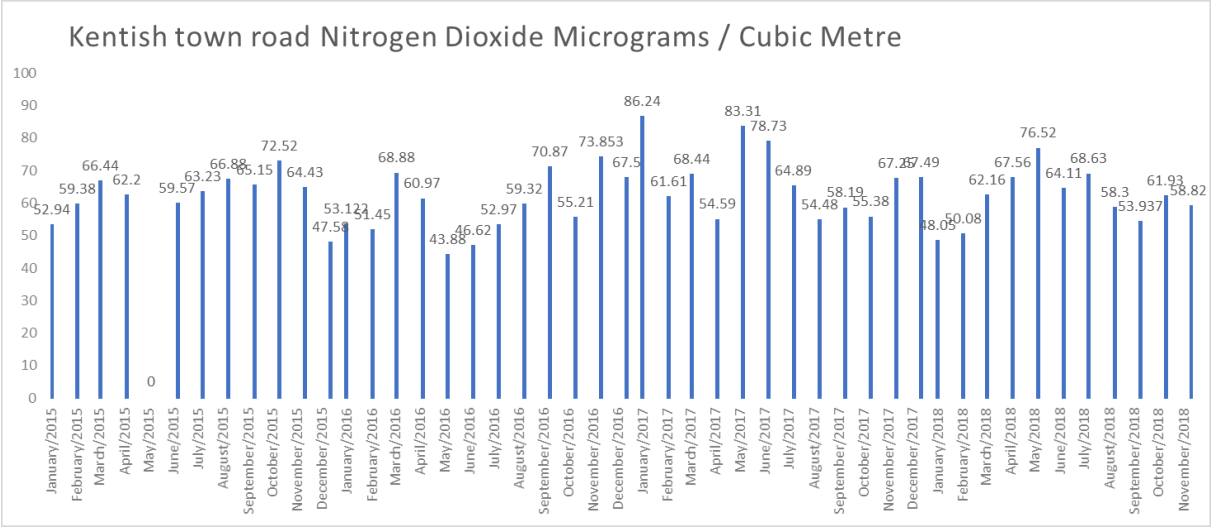



**Figure 7 Kentish Town Road Diffusion tube data 2015 to 2018 (base year 2015).**

4.20 For diffusion tube monitoring, it can be considered that exceedances of the $NO_2$ 1-hour objective may occur at roadside sites if the annual mean is above 60µg/m3

| Year | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|
| Mean (µg/m$^3$ ) | 60.92 | 66.72 | 58.72 | 56.69 |

**Figure 8 Kentish Town Road Side Diffusion Tube Annual Mean**

https://opendata.camden.gov.uk/Environment/Air-Quality-Monitoring-Diffusion-Tube-Graph-2015/ek8y-nnh5

## Conclusion

4.21 The annual mean Background NO2 levels is exceeds the target value base on road side diffusion tube test measurements outside Kentish town road rail and underground station. Therefore, charcoal NOx filters are required as part of the whole house ventilation system and

4.22 There is a higher than recommended concentration of PM2.5 dust particles require additional filtration.

### *Carbon Filters*

4.23 In-line carbon filter range sets new standards in air filtration without loss of resistance. Carbon filters removes 99.5% of Nitrogen Dioxide and chemicals produced by industrial processes and burning fossil fuels.

4.24 Pre-filters ensure that as much as 95% of harmful PM10 and PM2.5, safe-guarding the health of the homeowner and preventing the build-up of particles inside the home.


**Figure 9 Nuaire Whole House ventilation Carbon Filters.**

# 5 Air Quality Neutral

5.1 Air Quality Neutral (AQN) is the new calculation procedure designed to simplify the air quality calculation with respect to the impact of the new development on local air quality. This calculation procedure considers the impact on air quality from both building heating, cooling system and transport emissions.

## Building Emission

5.2 Ultra-Low NOx gas boilers – although there are no boilers currently on site, modern ultra-low NOx boilers (less than 30mg/kWh) have lower emissions than the air quality target.

5.3 Combine Heat and Power which can have negative affect on local air quality is not proposed.

## Transport

5.4 The CA Transport Statement February 2019 – this document has not calculated the number of vehicle movements generated by the development. Using the default benchmarks often results in slightly higher levels of predicted vehicle emissions.

5.5 The CA Transport statement confirms that post construction there is no material change in vehicle movements as result of this development

***Trip Generation***

*6.2 Given the scale and nature of the planning application proposal, the number of person movements likely to be generated by the proposed residential units will be low and will not have any material impact on the operation of the local highway or public transport network.*

*6.3 Future visitors to the commercial element of the site are expected to typically travel to the site via public transport or as a linked trip with other commercial entities on Kentish Town Road. In light of this, the proposed A1/A3 retail unit is not anticipated to result in any material change to the highway network.*

*6.4 There will be no material change to public transport utilisation due to the high frequency of public transport services in the local area.*

*6.5 It is also pertinent to note that the previous use of the site as a car valeting centre would have generated significantly more vehicle movements on the local highway network than the future use of the site.*

**Figure 10 Extract from the CA Transport Statement.**

5.6 Kentish Town Road has public transport assessment level of 6a with extremely good links to the rest London public transport systems. The development includes cycle storage.

## Conclusion

5.7 As a small development with no parking facilities and occupants relying on the good public transport. This development will maintain neutral air quality.

# 6 Construction Air Quality Risk Assessment

6.1 The greatest risk to local air quality is during demolition of any building on site during ground construction works where the contractor will be required to undertake the advice set out in The GLA SPG on The Control of Dust and Emissions during Construction and Demolition (GLA, 2014b).

6.2 The mitigation measures should be written into a dust management plan (DMP) which is produced by the contractor and published before work starts on site. The DMP may be integrated into a Code of Construction Practice or the Construction Environmental Management Plan. The GLA guidance suggests that, for a Medium Risk site, automatic monitoring of particulate matter (as PM10) will be required. It also states that, on certain sites, it may be appropriate to determine the existing (baseline) pollution levels before work begins. However, the guidance is clear that the Local Authority should be advised as to the appropriate air quality monitoring procedure and timescale on a case-by-case basis.

6.3 Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There should not be any excess to potentially contaminate local watercourses.

## Air Quality Dust Risk Assessment.

6.4 The proposed construction method is concrete frame with concrete floor construction on piled foundations. This method of construction is not likely to produce excessive amounts of dust or result in high number of vehicle deliveries than other construction methods. There is limited requirement for earth movement / ballast and concrete deliveries.

6.5 As the site is close to a nursery school within 50m of the construction site boundary.

6.6 The contractor as part of their appointment will be required to produce construction statement before works start. The statement will include the method proposed by the contractor to minimise the risk of dust emission from the site. Summarised below are list of action and possible methods the contractor may employ to reduce dust emission during construction.

## Demolition

6.7 The demolition of the existing single storey building on site will be carried out using a combination of manual labour and small machinery. Water sprays will be used to reduce airborne dust emissions, the site labourers will be wearing suitable protective clothing and face mask.

6.8 Vehicle movements will be kept to minimum, waste will be transported using covered tipper vehicles. Regular construction waste will be removed using covered skips throughout the construction process.

6.9 Site deliveries are limited to periods outside of the morning rush hour (07:00 to 09:30)

### *Earthworks*

6.10 There is only limited earthmoving to allow for the construction of underground drainage, concrete piles and ground beams. Due to access and space limitation the contractor will have to use small to medium sized earth moving machinery.

6.11 The contractor is required to produce a method statement describing the proposed methods of how they will avoid depositing soil and or waste on public high way and method to reduce dust emissions.

6.12 There is a medium risk of dust emission during ground works

### *Construction*

6.13 This is a small construction site which is contributory to reduce and confine dust emission from exposed soil and or drying fine clay soils.

6.14 As part of the construction statement the contractor will describe the methods of how dust and noise emissions will be reduced during construction. As the building frame is under construction the contractor will be required to start the installation of scaffolding building shroud. This is to eliminate the possibility of dust emission.

6.15 The risk of dust emission during the construction phase is considered to be small.

### *Vehicle Track out*

6.16 The contractor will include in the method statement a section explaining how deliveries are to be received on site and how building waste is stored and recycled from site.

6.17 The contractor will have to consider the supply and unloading of reinforcing steel and concrete, and deliveries of the larger items such as bricks, insulation and windows. The contractor will be encouraged to break down loads for delivery via small vehicles. Although this increases vehicle numbers the vehicles are general lighter and with lower vehicle emissions.

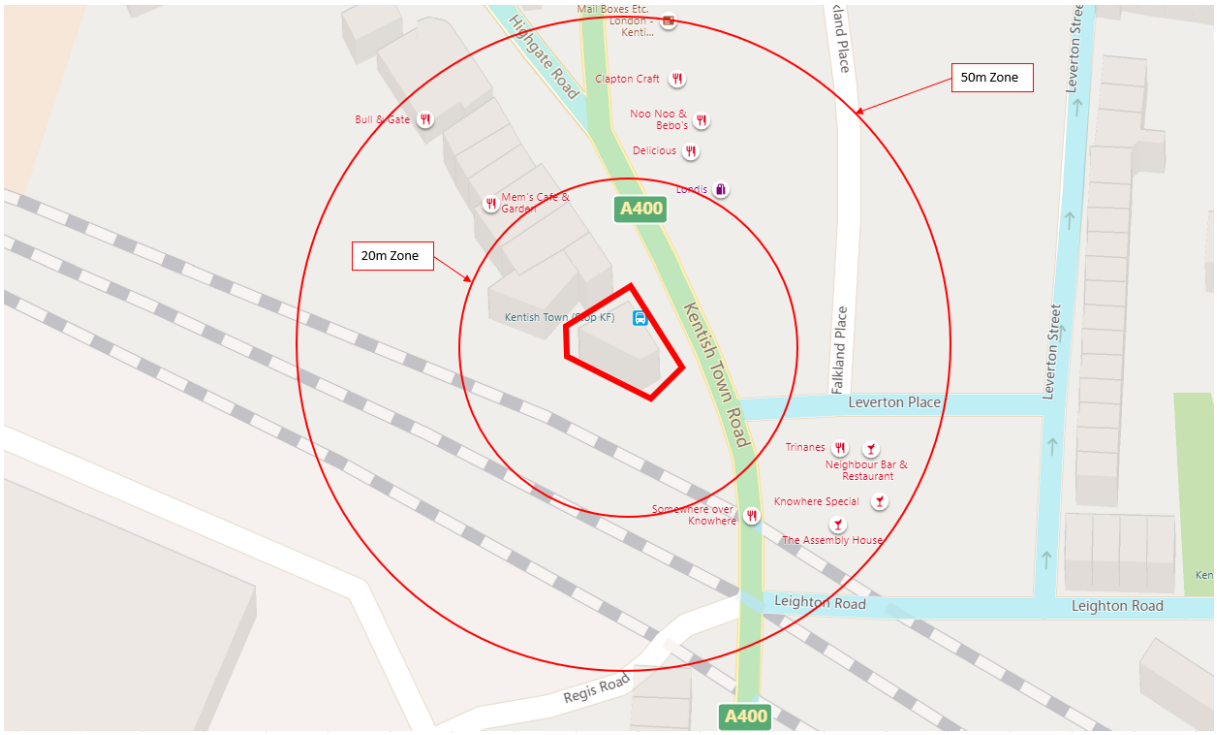
### *Ecology*

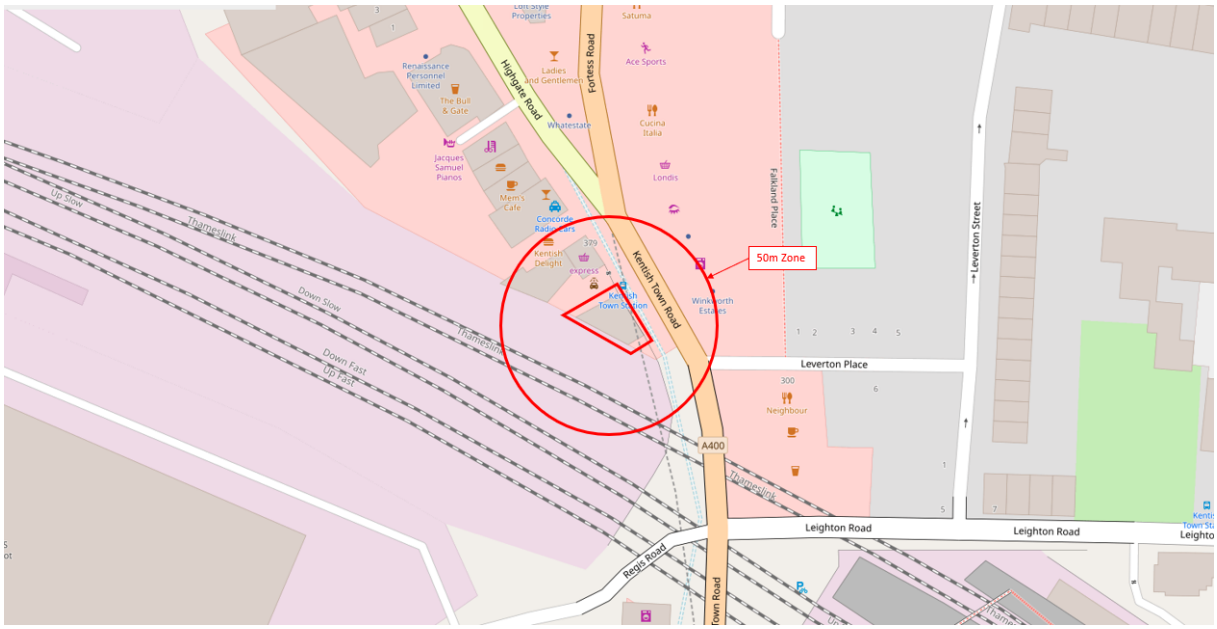
6.18 The site adjoins the William Morris community centre, with a garden that is available for outside events such as children parties. This garden has mature tree's which could be affected.

| Construction Site Works | | | |
|---|---|---|---|
| Demolition | Earthworks | Construction | Trackout |
| Small | Small | Small | Small |
| Sensitivity Of The Surrounding Area | | | |
| Demolition | Earthworks | Construction | Trackout |
| Low | Low | Low | Low |
| Low | Low | Low | Low |
| Low | Low | Low | Low |
| Summary Dust Risk | | | |
| Demolition | Earthworks | Construction | Trackout |
| Low Risk | Low Risk | Low Risk | Low Risk |
| Low Risk | Low Risk | Low Risk | Low Risk |
| Negligible | Negligible | Negligible | Negligible |

**Table 7Air Quality Construction Dust Risk Assessment.**

6.19 There is a medium risk of dust emission during construction works.


50m Zone
20m Zone
A400
Highgate Road
Kentish Town Road
Falkland Place
Leverton Place
Leverton Street
Leighton Road
Regis Road
Clapton Craft
Bull & Gate
Noo Noo & Bebo's
Delicious
Londis
Trinanes
Neighbour Bar & Restaurant
Knowhere Special
Somewhere over Knowhere
The Assembly House


50m Zone
Highgate Road
Kentish Town Road
Fortess Road
Falkland Place
Leverton Street
Leverton Place
Leighton Road
Regis Road
A400
Thameslink
Down Slow
Down Fast
Up Fast
Ace Sports
Cucina Italia
Londis
Neighbour

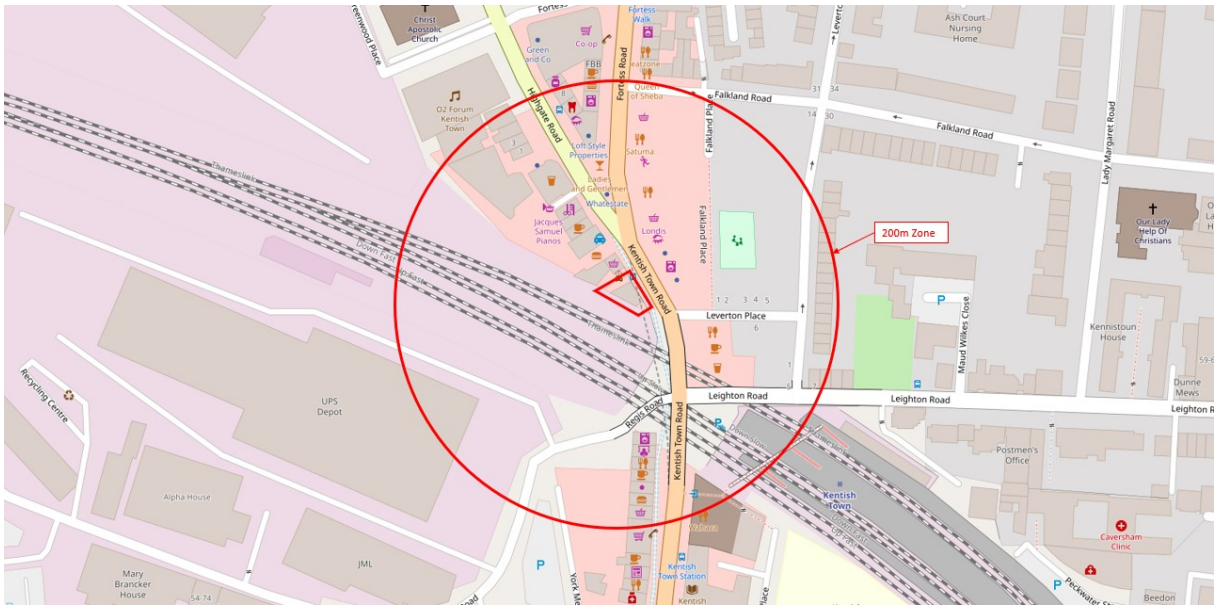



**Figure 11 The Potential Area of Risk from Air Bourne Pollutants from the Construction Site**