



## **DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICAR'S ROAD: AIR QUALITY STATEMENT**

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## **THE CLOUD HOUSE: AIR QUALITY STATEMENT**

This Statement addresses air quality issues relating to the planning application for THE CLOUD HOUSE development at 20 Vicar's Road.

Policy CC4 of the Camden Local Plan (2017) seeks to ensure that the impact of development on air quality is mitigated and that exposure to poor air quality is reduced. This Policy is supported by Camden Planning Guidance on Air Quality (March 2019).

Both the Camden Local Plan and associated Camden Planning Guidance define the circumstances when an Air Quality Assessment will be required in connection with development. As explained in the table below, THE CLOUD HOUSE does not meet these criteria. Notwithstanding this, the Statement sets out how the development will manage any potential emissions and provide appropriate air quality to the dwellings to ensure the objectives of Policy CC4 are met.

As Paragraph 8.83 of the explanatory text to Policy CC4 notes, a development can affect air quality in three significant ways:

- 1) Emissions from construction and demolition;
- 2) Emissions from the combustion of fuel for energy within the building; and
- 3) Emissions from transport to and from the building.

This Statement deals with the relevant sections of the two policy documents with regard to these three main areas of concern – and explores ways in which the design of the building, and its landscaping, can help to improve Air Quality. It demonstrates that the proposal for THE CLOUD HOUSE development at 20 Vicar's Road is in compliance with Policy CC4 Air Quality of the Local Plan and with the Camden Planning Guidance on Air Quality (March 2019).

### **1) REQUIREMENT FOR AIR QUALITY ASSESSMENT**

<b>POLICY / GUIDANCE ON AIR QUALITY – RELEVANT SECTIONS TAKEN FROM POLICY CC4 OF THE AIR QUALITY LOCAL PLAN &amp; CAMDEN PLANNING GUIDANCE ON AIR QUALITY</b>	<b>HOW THIS IS BEING DEALT WITH IN THE DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICARS ROAD</b>
<b>FROM POLICY CC4: Air Quality Assessments</b>  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.	<ul style="list-style-type: none"><li>• This development is a small-scale development and 'minor' application.</li><li>• It does not meet the criteria listed in Paragraph 8.78 of Policy CC4 of the Local Plan, nor is it next to a busy</li></ul>

<p>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.</p> <p><b>Accompanying text:</b>  8.78 The Council will require Air Quality Assessments (AQA) where any of the following apply:</p> <ul style="list-style-type: none"> <li>• major applications where occupants will be exposed to poor air quality (along a busy road, diesel railway lines or in a generally congested area);</li> <li>• development that has potential to significantly change road traffic on a busy road;</li> <li>• the development has more than 75 new residences;</li> <li>• commercial developments with a floorspace of 2,500 sqm or more;</li> <li>• developments that include biomass boilers or CHP (combined heat and power) and connections to existing decentralised energy networks (whereby the increased capacity is not already covered by an existing AQA); and</li> <li>• substantial earthworks or demolition.</li> </ul> <p>8.79 We will also require a basic AQA for all newly erected buildings/substantial refurbishments and changes of use where occupants will be exposed to poor air quality (due to its location next to a busy road, diesel railway line or in a generally congested area).</p>	<p>road, a diesel railway line or in a congested area as referred to in paragraph 8.79.</p> <ul style="list-style-type: none"> <li>• The site also lies within the north of the Borough, where measured emissions meet air quality standards.</li> <li>• As such, the development does not require a either a full or basic Air Quality Assessment.</li> </ul>
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>3. Air Quality Assessments</b></p> <p><b>When are Air Quality Assessments required?</b></p> <p>3.2 An Air Quality Assessment is required in all developments meeting the criteria of Local Plan policy CC4. This includes all major planning applications and development that:</p>	<ul style="list-style-type: none"> <li>• See above.</li> </ul>

<ul style="list-style-type: none"> <li>• introduces sensitive receptors (nurseries, schools, care homes, hospitals) where occupants will be exposed to poor air quality (along a busy road, diesel railway lines or in a generally congested area);</li> <li>• has potential to significantly change road traffic on a busy road;</li> <li>• includes biomass boilers or CHP (combined heat and power);</li> <li>• includes connections to existing decentralised energy networks (whereby the increased capacity is not already covered by an existing AQA);</li> <li>• involves substantial earthworks or demolition.</li> </ul>	
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## 2) EMISSIONS FROM CONSTRUCTION AND DEMOLITION

POLICY / GUIDANCE ON AIR QUALITY – RELEVANT SECTIONS TAKEN FROM POLICY CC4 OF THE AIR QUALITY LOCAL PLAN & CAMDEN PLANNING GUIDANCE ON AIR QUALITY	HOW THIS IS BEING DEALT WITH IN THE DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICARS ROAD
<p><b>FROM POLICY CC4: Construction and demolition</b></p> <p>Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan.</p> <p><b>Accompanying text:</b>  8.84 Emissions from construction and demolition can be reduced through the adoption of sustainable design and construction methods (see Policies CC1 and CC2). Any development which involves significant demolition, construction or earthworks will be required to assess the risk of impacts according to Institute of Air Quality Management Dust Guidance and adhere to the Mayor’s supplementary planning document (SPD) on ‘The control of dust and emissions during construction and demolition’. Mitigation measures appropriate to the risk should be included in the Construction Management Plan. All high risk sites must include real time construction dust monitoring and all medium risk sites to include monitoring where considered necessary, in accordance with the Mayor’s SPD.</p>	<ul style="list-style-type: none"> <li>• This project will require the demolition of one small house built with traditional methods out of brick and timber in the Victorian era. It will not involve “significant demolition, construction or earthworks” and is LOW RISK site in the context of air quality.</li> <li>• Best practice measures will be adopted throughout the demolition and the construction of the two semi-detached houses that will make up the development, to reduce and mitigate air pollution emissions, with care taken to reduce dust levels. These will be defined following the grant of planning permission, but would include: <ul style="list-style-type: none"> <li>• Careful site management, including regular liaison with on-site contractors and inspection by the applicant to ensure appropriate measures are in place.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• Soft stripping interior of existing house before demolition and careful disposal of material.</li> <li>• Careful demolition to ensure the bricks of the existing house can be used to create herringbone paths and paved areas in the front gardens of both houses, the back gardens of both houses, and in the alleyway and the front area of the school.</li> <li>• Full enclosure of site during demolition, with site boundaries and screening kept clean.</li> <li>• Regular removal of surplus demolition materials or otherwise covering of materials.</li> <li>• Requiring contractors to switch off vehicle engines and any machinery when not in use.</li> <li>• Any machinery used to meet relevant environmental standards.</li> <li>• Use of water suppression techniques where appropriate.</li> <li>• Ensure exterior of site on Vicar's Road is kept clean by washing down as appropriate.</li> </ul>
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>Scheme of protective works</b></p> <p>Distance of impacts – depending on the size, location and characteristics of your development, impacts from demolition and construction phases can occur at distance of 10m to 500m.</p> <p>4.4 Best practice measures should be adopted during construction and demolition work to reduce and mitigate air pollution emissions. Development that involves significant demolition, construction or earthworks will be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan. Applicants are encouraged to adopt the procedures outlined Mayor's 'Control of Dust and Emissions during Construction and Demolition' SPD. These focus</p>	<ul style="list-style-type: none"> <li>• See above.</li> </ul>



<p>around three principles to control emissions – prevention, suppression and containment. We will expect you to include the following items in Construction Management Plans:</p> <ul style="list-style-type: none"> <li>• Identification of whether demolition/construction represents a low, medium or high-risk site in the context of air quality;</li> <li>• Identification of the best practice measure required to control and mitigate plant and vehicles exhaust emissions; and</li> <li>• How this will be monitored.</li> </ul> <p>4.5 The importance of reducing emissions from non-road mobile machinery is recognised in the Mayor's 'Control of Dust and Emissions during Construction and Demolition' SPD.</p>	
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>4. Minimising emissions into the air</b></p> <p><b>KEY MESSAGES</b></p> <ul style="list-style-type: none"> <li>• <b>All proposals involving demolition and construction should adopt best practice measures to reduce and mitigate emissions.</b></li> <li>• <b>On-site monitoring may be required dependent on the scale of demolition and construction.</b></li> <li>• <b>Certain developments using Non Road Mobile Machinery (within the KW range) need to meet standards in the Mayor's Dust and emissions SPD.</b></li> <li>• <b>The impact of outdoor air pollution on indoor air quality in new developments needs to be taken into account at the earliest stages of building design.</b></li> <li>• <b>Development should take into consideration the location of amenity space and opportunities for appropriate planting 'greening'.</b></li> <li>• <b>Development should reduce emissions by being energy efficient (reducing emissions associated with the operation of the building).</b></li> <li>• <b>Development should prioritise more sustainable modes of transport and where applicable improve the walking and cycling environment.</b></li> </ul> <p>4.1 Various actions can be taken to mitigate air pollution emissions arising from the construction and operational phases of a development. Additional actions can be adopted to</p>	<ul style="list-style-type: none"> <li>• Best practice measures will be adopted to reduce and mitigate emissions (see above).</li> <li>• The development is small-scale, but measures will still be taken to minimise dust and emissions, especially during construction when there will be machinery on site (see above).</li> <li>• The impact of outdoor air pollution on indoor air quality has been taken into account in the building design (see details below).</li> <li>• The development has taken into account opportunities for greening (see details below).</li> <li>• The development has been designed to reduce emissions by being energy efficient (see details below).</li> <li>• The development prioritises sustainable modes of transport and 20A will be a car-free household (see details below).</li> </ul>

<p>curtail public exposure in areas where air pollution levels are particularly high. These should be taken into account during the design stage of an application. The key measures are detailed below.</p> <p><b>Reducing dust and air quality impacts during demolition and construction</b></p> <p>4.2 The impact of the construction and demolition phases of a development on air quality must be taken into account as part of planning applications and included in AQAs. Exhaust emissions from construction vehicles and machinery such as generators, piling and grinding equipment can result in dust emissions; gases (NO<sub>2</sub>); and fine particles.</p> <p>4.3 Controlling dust emissions is important to:</p> <ul style="list-style-type: none"> <li>• prevent disturbance to local residents due to soiling;</li> <li>• minimise damage to vegetation; and</li> <li>• reduce impacts on local air quality, thereby protecting public health.</li> </ul>	
<p><b>FROM POLICY CC4: Mitigating measures</b></p> <p><b>Accompanying text:</b></p> <p>8.81 Where an AQA shows that a development would cause harm to air quality, planning permission will be refused unless mitigation measures are adopted to reduce the impact to acceptable levels. Mitigation measures should be provided on-site, however where this is impractical the AQA should demonstrate that it is possible to include measures in the local area which have equivalent air quality benefits. Mitigation measures may be secured either by planning condition or legal agreement where appropriate.</p>	<ul style="list-style-type: none"> <li>• Although an AQA is not required, mitigating measures will be put in place to ensure emissions from construction and demolition and from transport to and from the building are minimised.</li> </ul>
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>Monitoring</b></p> <p>4.10 We may require monitoring, before and during the construction and demolition phases, dependent upon the scale of the proposed development. Medium risk schemes usually require a minimum of two real-time monitors, while high risk schemes usually require four. The choice</p>	<ul style="list-style-type: none"> <li>• This is a small domestic development made up of two semi-detached houses – so monitoring of this kind would not be necessary.</li> </ul>

<p>of locations and positions must clearly be demonstrated on the basis of identified nearby receptors, the prevailing atmospheric conditions, off-site emission sources, local topography, and the relevant dust-generating site activities. Baseline monitoring would normally be required for at least 6 months (ideally 12 months) prior to commencement, and the results used to inform interpretation of construction phase monitoring and any actions required to be taken to avoid exceedances.</p> <p>4.11 The Council may seek a financial contribution from major development towards the management and implementation of compliance monitoring, assessment and investigation. This would be secured through a s106 agreement and would be commensurate to the scale and risk of the development project using the rates to be published on the Council's website (please see section 5 of this guidance for more information).</p>	
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### 3) EMISSIONS FROM THE COMBUSTION OF FUEL FOR ENERGY WITHIN THE BUILDING

<p>POLICY / GUIDANCE ON AIR QUALITY – RELEVANT SECTIONS TAKEN FROM POLICY CC4 OF THE AIR QUALITY LOCAL PLAN &amp; CAMDEN PLANNING GUIDANCE ON AIR QUALITY</p>	<p>HOW THIS IS BEING DEALT WITH IN THE DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICARS ROAD</p>
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>Heating and energy supply</b></p> <p><b>Gas boilers</b></p> <p>4.15 Gas boilers are a large source of NOx emissions in Camden. In order to minimise NOx emissions arising from heating and hot water systems the Council requires boilers fitted in new development to achieve a NOx emissions of 90%.</p> <p><b>Renewable Energy and Combined Heat and Power</b></p> <p>4.16 Local Plan policy CCI promotes the use of renewable energy technologies to reduce carbon emissions and tackle climate change. The adoption of renewable energy and energy efficiency technologies can minimise air pollution emissions through reductions in gas</p>	<ul style="list-style-type: none"> <li>• There will be a hybrid heating system fitted in each house, using the Mitsubishi Ecodan PUHZ-SW split air source heat pump in 7.5kw size, in conjunction with the Mitsubishi Ecodan FTC5 split cylinder and a Worcester Bosch Greenstar 8000 style 40kw combi gas boiler, which has an efficiency rating of 94% and complies with Boiler Plus legislation, lowering emissions with a smart thermostat.</li> <li>• The hybrid system will have smart controls enabling maximum carbon savings – the controls will switch between the heat pump and gas boiler to use whichever is lowest carbon at the time.</li> </ul>



<p>consumption required for heating and hot water. These include solar thermal collectors and ground source heat pumps in addition to gas and hydrogen fuel cell combined heat and power (CHP) or combined cooling heat and power (CCHP).</p> <p>4.17 Biomass boilers however can give rise to higher emissions of NO<sub>x</sub> and PM<sub>10</sub> emissions than conventional gas boilers. Permission to operate these appliances is unlikely to be granted in Camden and would only be possible if the air quality impacts are demonstrated to be equivalent or lower than those associated with a conventional gas boiler of similar thermal rating. Where an assessment demonstrates adverse effects on air quality, this type of biomass boiler should not be used in the development.</p> <p>4.18 In cases where emissions released from a biomass boiler do not lead to negative impacts on air quality, the appliance will be required to meet high standards of air pollution control with particular emphasis given to: • boiler design and operation; • pollution abatement equipment; • servicing and maintenance; • fuel quality, storage and delivery; and • exhaust stack height.</p>	<ul style="list-style-type: none"> <li>• Each house will be highly insulated, and as air tight as possible, with the main perimeter walls being built from ICF to reduce energy consumption – these levels of insulation and air-tightness will mean less heating is required, and when it's needed, the vast majority will use renewable energy from the air source heat pump – and therefore use of natural gas will be minimal.</li> <li>• Both houses will use renewable energy technologies to reduce carbon emissions and tackle climate change. Gas consumption will be significantly reduced.</li> <li>• No CHP or Biomass boilers or Hydrogen Fuel Cells will be used.</li> </ul>
<p><b>FROM POLICY CC4: Fuel for energy</b></p> <p><b>Accompanying text:</b></p> <p>8.85 In Central London, one of the most significant sources of air pollution is domestic and commercial boilers, which are a key source of NO<sub>2</sub> (around 40%) and a small source of PM<sub>10</sub>. This can be reduced through energy efficiency and by ensuring new boilers are Ultra Low Nitrogen Oxide (NO<sub>x</sub>) (less than 40 mg/kWh). There are serious air quality implications for the use of Combined Heat and Power (CHP) Plants and Biomass Boilers. Consequently the use of biomass as a renewable energy source will be the Council's least preferred option for the provision of renewable energy. We will expect developments to focus on energy efficiency and an efficient energy supply. CHP will only be accepted if it is shown to be the most appropriate choice, it must also be of the highest standard in terms of NO<sub>x</sub> emissions and it must adhere to the latest emissions standards contained in the Mayor's Supplementary Planning Guidance 'Sustainable Design and Construction'. An AQA with full dispersion modelling is required for all proposed Biomass and CHP boilers and this must demonstrate that its impact on nearby receptors is minimal.</p>	<ul style="list-style-type: none"> <li>• See above</li> </ul>

<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>Combined Heat and Power (CHP)</b></p> <p>4.19 CHP and Combined Cooling, Heating and Power (CCHP) can be a more efficient way to provide energy in global carbon terms. However, these systems can cause higher local emissions and must meet the criteria cited within the London Plan (currently contained in SPG Sustainable Design and Construction: Appendix 7). The Council will require evidence that the exhaust stack height has been appropriately calculated to guarantee that NO<sub>x</sub> emissions are effectively dispersed, and do not risk increasing NO<sub>2</sub> concentrations. An air quality assessment will be required for developments proposing CHP/CCHP. Where the assessment reveals a negative impact on air quality, mitigation measures will be required entailing the best available techniques to reduce emissions. This includes the installation of NO<sub>x</sub> abatement technology such as:</p> <ul style="list-style-type: none"> <li>• use of low NO<sub>x</sub> burners, Selective Catalytic Reduction (SCR); or</li> <li>• increasing stack height.</li> </ul> <p>4.20 A programme of on-going maintenance and servicing will be necessary to minimise gas emissions released from CHP/CCHP. The Council will use Section 106 obligations to set requirements for controlling emissions from biomass boilers and CHP/CCHP.</p>	<ul style="list-style-type: none"> <li>• This is a small domestic development made up of two semi-detached houses – no CHP or CCHP will be involved.</li> </ul>
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#### 4) EMISSIONS FROM TRANSPORT TO AND FROM THE BUILDING

POLICY / GUIDANCE ON AIR QUALITY – RELEVANT SECTIONS TAKEN FROM POLICY CC4 OF THE AIR QUALITY LOCAL PLAN & CAMDEN PLANNING GUIDANCE ON AIR QUALITY	HOW THIS IS BEING DEALT WITH IN THE DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICARS ROAD
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>Traffic Reduction</b></p> <p>4.21 Road transport is one of the main sources of air pollution in Camden. The policies in the Local Plan prioritises sustainable means of travel and minimises the use of motor vehicles for</p>	<ul style="list-style-type: none"> <li>• The new house at 20A Vicar's Road will be sold as a car-free house, so there will be no additional pollution on the street from car fumes.</li> <li>• Both houses in the Cloud House development (20 and 20A) will have bespoke covered bicycle shelters built</li> </ul>

<p>the movement of people and freight. Policy T1 outlines how developments should prioritise sustainable modes of transport and contribute to improvements to the walking and cycling environment.</p> <p>4.22 The Local Plan requires all new development in the borough to be car free in accordance with policy T2 Parking and car free development. This will limit opportunities for parking and car use in the borough and should lead to reductions in air pollutants. Other measures to reduce traffic impacts of development and improve the environment to encourage walking and cycling are detailed in Camden Planning Guidance on Transport.</p>	<p>into their front gardens to encourage residents to cycle as a mode of transport.</p> <ul style="list-style-type: none"> <li>• The site is accessible to public transport, with a PTAL of 3, and within easy reach of the shops and services of nearby town and local centres, including Kentish Town.</li> <li>• External areas to the front and the side of the development will be improved with new herringbone brick pathways, which will re-use bricks from the existing house at No 20 which is to be demolished.</li> <li>• The street frontage will be much improved for passers-by on the street too, as both houses will have attractive front gardens, with planting and greenery. And residents of the flats to the north of the development will also have an improved view, as there'll be an attractive curved green roof to look down onto at the back of the building.</li> </ul>
<p><b>FROM POLICY CC4: Transport</b></p> <p><b>Accompanying text:</b></p> <p>8.86 Road transport is a significant source of air pollution in London, primarily from vehicle exhaust and tyre and brake wear.</p> <p>8.87 Vehicles are a major source of both PM10 and NO2 in Camden and AQAs will be required when a development will significantly increase traffic volumes, congestion, parking or the number of HGVs in the locality (see Policy C2 Community facilities and Policy A1 Managing the impact of development).</p>	<ul style="list-style-type: none"> <li>• See above.</li> </ul>

## 5) AIR QUALITY IMPROVEMENTS THROUGH BUILDING LOCATION & DESIGN / PLANTING & GREENING

POLICY / GUIDANCE ON AIR QUALITY – RELEVANT SECTIONS TAKEN FROM POLICY CC4 OF THE AIR QUALITY LOCAL PLAN & CAMDEN PLANNING GUIDANCE ON AIR QUALITY	HOW THIS IS BEING DEALT WITH IN THE DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICARS ROAD
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>Building location and design</b></p> <p>4.12 The location of a development has a direct influence on exposure to elevated air pollution levels. This is particularly relevant where developments include sensitive uses such as hospitals, schools and children’s playgrounds. Suitable building design, layout and orientation can avoid increasing exposure whilst minimising energy demand and energy loss. The Council requires the impact of outdoor air pollution on indoor air quality in new developments to be taken into account at the earliest stages of building design.</p> <ul style="list-style-type: none"> <li>• <b>Energy efficient:</b> An energy efficient building design can minimise air pollution resulting from the use of gas boilers. Adopting sustainable building design will reduce thermal heat losses and result in less gas use leading to lower NOx emissions (see Chapter 3 ‘Making buildings more energy efficient’ CPG Energy efficiency and adaptation).</li> <li>• <b>Building ventilation:</b> Indoor air quality needs early consideration in building design. The location of ventilation inlets, flues, opening windows should be on higher floors away from the sources of air pollution at ground level, but also stationary sources of plant. If mechanical ventilation (air conditioning) is considered acceptable (following the cooling hierarchy, see Chapter 10 CPG Energy efficiency and adaptation), they should be fitted with proven filtration technology appropriate for the pollutants of concern and should be maintained. Developments should also consider the location of neighbouring receptors.</li> </ul> <p>4.13 The location of outside space is also an important consideration and any exposure of gardens and roof terraces should be screened and, where practicable, minimised through appropriate positioning and orientation. Applicants should take care not to locate flues and exhaust vents in close proximity to recreational areas such as roof terraces or gardens.</p>	<ul style="list-style-type: none"> <li>• The ventilation plan for both houses has been carefully put together to ensure that the majority of flues and vents are at a high level, away from the sources of air pollution, and are not in close proximity to recreational areas.</li> <li>• Indoor air quality will be much-improved thanks to the construction of the perimeter walls from ICF, which will make each house very air-tight, close to Passivhaus standards.</li> <li>• The positioning of the rooms in the houses also bear air quality in mind – each house is an upside-down house, meaning that the main living areas are at the top of the building – so in each case the spaces most occupied during daytime, when pollution is highest, are furthest away from the street. Two of the bedrooms in 20A and two of the bedrooms in 20 are positioned at the back of the building, again away from street pollution.</li> <li>• The whole building is to be well-insulated, with underfloor heating powered by air source heat pumps, and solar glazing on the south elevations, so the ambient temperature in each house should be comfortable year-round, minimising the need to sleep with windows open and so the chances of polluted air</li> </ul>

	entering the building, even in the street-facing bedrooms.
<p><b>FROM CAMDEN PLANNING GUIDANCE ON AIR QUALITY:</b></p> <p><b>PLANTING &amp; GREENING</b></p> <p>4.14 Plants can play a role in trapping particulates. Certain plants with small leaves, fine hairs, and those which are grooved provide surfaces which trap particles. To help improve local air quality developers need to consider appropriate planting and trees (including green walls and roofs). Additional information on the benefits of planting can be found in 'Impacts of Vegetation on Urban Air Pollution, by Air Quality Expert Group.</p>	<ul style="list-style-type: none"> <li>• The two houses have been carefully designed to create a number of attractive garden / terrace areas where there will be plenty of opportunities for planting and greenery. There will be hedging, flower beds, window boxes and plants in pots in these spaces. A pergola has also been designed to go in the alleyway between Cloud House and the school next door up which climbing plants will be trained.</li> <li>• The curved ground floor roof of 20A (an area of more than 40 square metres) will be a green sedum roof. Green roofs have significant advantages for the environment; climate control, stormwater attenuation, noise and pollution reduction and heat insulation. They also protect against thermal gain and offer an additional habitat for flora and fauna. Having such a substantial area as green roof in the development will assist with the trapping of particulates.</li> </ul>

PLEASE ALSO REFER TO THE SEPARATE ENERGY REPORT FOR THIS PROJECT PRODUCED BY TYGUE DOYLE AT EEP (ENVIRONMENTAL ENGINEERING PARTNERSHIP)