

**Winchester City Council**

**Air Quality Supplementary  
Planning Document**

**December 2020**

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## 1. Executive Summary

This Supplementary Planning Document (SPD) sets out the Council's requirements for reducing air pollution emissions from new development on all land that is either in or within 1km of the Winchester built up area as shown on the map in Appendix H. This SPD supplements the policies in the Local Plan which are currently used to determine planning applications and in particular policies WIN2 and DM19 which deal with air quality. Once adopted this SPD will be a significant material planning consideration when determining planning applications within the SPD area and will form part of the Local Development Framework.

Planning applications within this area will be required to consider their impact and operation within the context of both the Air Quality Management Area (AQMA) and more widely across the area covered by this SPD.

This SPD will highlight and supplement the existing local plan policies aiming to improve air quality in the SPD area and also help to achieve the aims of the Council's Air Quality Action Plan (AQAP) for the Air Quality Management Area in Winchester City Centre by achieving compliance with the nitrogen dioxide (NO<sub>2</sub>) annual mean Air Quality Strategy objectives of;

- Improve local air quality and reduce public health impacts;
- Attract investment in clean technology, sustainable travel and renewable energy; and
- Provide clarity and consistency for planners, developers and local communities.

This SPD will support the Council's requirement to assess, report on and improve local air quality under Local Air Quality Management (LAQM) with the aim of improving air quality to a point where the AQMA designation is no longer required.

This SPD will provide clarity about when Air Quality Statements (AQS) or Air Quality Assessments (AQA) will be needed, how potentially harmful impacts of development can be mitigated and guidance on the use of planning conditions and Section 106 obligations to improve air quality.

## 2 Background

There is one designated Air Quality Management Area (AQMA) within the district which is within Winchester City Centre. The AQMA was declared in 2003 for exceeding the annual mean nitrogen dioxide (NO<sub>2</sub>) and 24-hour mean PM<sub>10</sub> concentrations, though the declaration for 24-hour mean PM<sub>10</sub> was later revoked in 2013. The AQMA is required to have an Air Quality Action Plan (AQAP), which sets out actions that will be taken to reduce emissions. An updated AQAP was approved in 2017 to specifically address NO<sub>2</sub> concentrations. One of the core actions of this plan was to:

*“Develop an air quality supplementary planning document (SPD) as part of the formal planning process that is integrated into the planning process”*

This SPD is produced as a result of this core action requirement.

Planning has the ability to play an important role in improving local air quality and can provide opportunities to reduce overall emissions in the SPD area over time via use of cleaner technologies, the promotion of alternative means of transport and improved sustainability. Air quality is currently part of international, national and local policies and legislation to help reduce air pollution impacts on public health. The Council has declared a Climate Emergency in accordance with the Climate Change Act 2008 and is therefore seeking to improve air quality and reduce greenhouse gas emissions. This SPD will also help to achieve this aim.

During 2020, in response to the global Covid-19 pandemic, central government introduced a 4 month national lock down initially in March to June, and subsequently with several iterations of regional control based on a tier system, with a second less stringent one month national lock down in November of 2020. During the Spring lock down period, there was a significant drop in traffic to and through Winchester and this saw a marked drop in levels of NO<sub>2</sub> within the AQMA.

However, since the lifting of this national lockdown there has been a steady increase in traffic with a corresponding rise in the levels of NO<sub>2</sub>, with air quality approaching pre Covid levels just prior to the November lock down period. Although citizens have been encouraged to work from home throughout the pandemic, this upward trend in traffic movement indicates that NO<sub>2</sub> levels are likely to quickly return to or near to pre Covid levels once the pandemic is under control.

### 3 Policy context

This chapter sets out the international, national and local policies whose objectives this SPD will help to achieve.

**Table 1: Summary of Key Policies and Documentation (Appendix K)**

Level	Name
International	2008 Ambient Air Quality and Cleaner Air for Europe Directive
	UK Air Quality Strategy
National	UK Clean Air Strategy
	National Planning Policy Framework
	National Planning Practice Guidance
Local	Adopted Winchester District (WCC) Local Plan (Parts 1 & 2)
	WCC Air Quality Action Plan (2017)

#### 3.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2019 sets out the overarching national planning policy objectives relating to air quality and development. Development should wherever possible improve local environmental conditions such as air quality (para 170 e). 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 (para 181).

#### 3.2 Local Plan Policies.

The Winchester District Local Plan comprises Part 1 – Joint Core Strategy (LPP1) and Part 2 - Development Management and Site Allocations (LPP2). It also includes the Denmead Neighbourhood Plan, Gypsy and Traveller Development Plan Document and the Minerals and Waste Plan, although these documents are not relevant to this SPD. There are also other supplementary planning documents with more detailed policies, to which this SPD adds; including High Quality Places and the Car Parking Standards both of which are adopted SPDs. The air quality policies in the Local Plan commit to minimising the impact of development on local air quality and reducing carbon emissions.

Within LPP1 the key policy governing air quality is policy DS 1 – Development Strategy and Principles, which states that:

*“In delivering the District’s housing, employment and community requirements development proposals will be expected to demonstrate conformity with the following (amongst other) principles:-*

- *Addressing the impact on climate change, renewable energy, air quality, green infrastructure, recycling/waste, flooding issues and the water environment.”*

Other policies within LPP1 which also refer to air quality are WT1 (Development Strategy for Winchester Town) and CP13 (High Quality Design)

Within LPP2 the key policy in respect of air quality is policy DM19 – Development and Pollution, which states that:

*“Development which generates pollution or is sensitive to it, and accords with the Development Plan will only be permitted where it achieves an acceptable standard of environmental quality. As a minimum, development should not result in unacceptable impacts on health or quality of life. Proposals should comply with all national statutory standards relating to environmental quality and include a statement setting out how such requirements have been met, where relevant, in designing the proposal.*

*The potential for unacceptable pollution resulting in adverse health or quality of life impacts should be addressed by applications. Where there is potential for adverse impacts to occur on the following matters (amongst others) a detailed assessment should be conducted:*

*(iii) ambient air quality*

*(vi) construction phase pollution impacts for large or prolonged developments*

*The report should identify and detail any mitigation measures that are necessary to make the development acceptable in respect of the adverse impacts on health and quality of life. The Local Planning Authority may require specific mitigation measures to be undertaken in order to make developments acceptable in terms of matters relating to pollution.*

Other policies in LPP2 which are relevant to air quality include WIN1 (Winchester Town), WIN2 (Town Centre) and DM17 (Site Development Principles).

## **4 The need for air quality assessments**

### **4.1 Local Air Quality**

The Council has a statutory obligation to assess and report on local air quality annually, from which conclusions are drawn about the general air quality in the area.

Winchester City Centre has elevated levels of NO<sub>2</sub> due mainly to road transport emissions and as a result of this WCC has designated an Air Quality Management Area (AQMA) where concentrations of NO<sub>2</sub> breach Government Air Quality Statement (AQS) objectives as shown in Figure A. 1 (Appendix A).

Whilst the Council’s monitoring network demonstrates a steady improvement in air quality in recent years, in order to bring the AQMA into compliance by reducing annual mean concentrations of NO<sub>2</sub> below the objective of 40µg/m<sup>3</sup>, and to ensure new areas of exceedance are not introduced by new developments, further action is required.

Work conducted in the preparation of the latest AQAP in 2017 showed that road transport emissions accounted for between 40%-50% of annual mean NO<sub>2</sub> concentrations within Winchester City Centre.

Accordingly, the AQAP puts in place a number of measures to work towards compliance with the annual mean NO<sub>2</sub> objective, many of which are related to road traffic.

## 5 The Assessment Methodology.

This chapter sets out the methodology which should be used to assess the level of air quality information that will be needed to support any planning application within the SPD area. Table 2 below sets out the thresholds that should be used to determine whether an air quality statement (AQS) or air quality assessment (AQA) will be needed.

### Policy 1 – Level of Assessment.

**Planning applications within the SPD area (see map in appendix H) should be screened using the thresholds in Table 2 below and should be subject to the relevant level of assessment required for the application. (Supplements Local plan policies DS1, WT1, CP13, DM17, DM19).**

The thresholds are principally based on the Town and Country Planning Regulations definition of ‘major’ development, with additional considerations specific to air quality (derived from Environmental Protection UK (EPUK) & IAQM guidance, Ref. 11 Appendix K).

**Table 2: Impact Screening Thresholds for proposed developments in the SPD area.**

<b>Application Type</b>	<b>Threshold</b>	<b>Air Quality Statement</b>	<b>Air Quality Assessment</b>
Residential	Fewer than 10 dwellings	YES	-
Residential	10 dwellings and over	-	YES
Residential	Site less than 0.5 hectares	YES	-
Residential	Site over 0.5 hectares	-	YES
Partly or wholly Non Residential Buildings	Over 1,000m <sup>2</sup> floor space or creating more than 10 or more new parking spaces	-	YES
Other	One or more combustion/heating plant(s) with a total combined net thermal output greater than 1MW	-	YES

## **Screening for relevant exposure receptor sites within the AQMA.**

In all instances where a relevant exposure is introduced to receptor sites as part of the proposed development, the applicant will need to assess the proposed site for its suitability for the intended use in respect of air quality. Relevant exposure receptor sites may include residential, educational and health care facilities for long term exposure, but could also include commercial facilities where members of the public may be expected to spend an hour or more outside (for example a bar/café with outdoor seating) for short term exposure.

### **Policy 2 – Receptor Sites.**

**If new exposure is introduced to an area of existing poor air quality, then a quantitative demonstration of the site's acceptability in relation to those receptors will be required. Site suitability should be carried out using dispersion modelling, using the methodology proposed in Appendix B.**

**For all residential developments within the AQMA regardless of size (including changes of use and conversions) which propose ground floor habitable rooms within 5 meters of the following roads a full AQA will be required.**

- **Jewry Street**
- **Romsey Road**
- **St Georges Street**

**(Supplements Local Plan policies DS1, WT1, DM19)**

If the LPA is not satisfied that the site is suitable for the proposed use on air quality grounds it will consider refusing permission or granting approval only if subject to conditions or legal agreements to ensure that sufficient levels of mitigation are secured.

## **5.1 Air Quality Statements.**

An Air Quality Statement (AQS) will only be suitable for residential developments of less than 10 dwellings or residential development on sites less than 0.5h within the SPD area (see table 2 above).

The purpose of an AQS is to show how the potential air quality impacts of development have been considered. The AQS takes the form of a checklist which must be completed to accompany the planning application. Each measure contained in the checklist serves to mitigate or reduce the potentially negative impact of the development on air quality and demonstrates the applicant's commitment to avoiding a cumulative impact from development on air quality in the area covered by this SPD.

### **Policy 3 – Air Quality Statements.**

**Where an Air Quality Statement is required to accompany a planning application in accordance with Policy 1 it should address the matters set out in the checklist in Table 3 below. Where the applicant does not consider it appropriate to provide ALL of these requirements they can provide a bespoke Air Quality Assessment the scope and detail of which should be agreed with the Council prior to submission. (Supplements Local Plan policies DS1, WT1, CP13, DM17, DM19).**

**Table 3: Air Quality Statement Checklist**

<b>Item</b>	
<input type="checkbox"/>	No solid fuel (wood or coal) domestic heating appliances or open fireplaces to be provided at any premises.
<input type="checkbox"/>	Appropriate secure, weatherproof cycle storage shall be provided in accordance with Policy 8 of the Parking Standards SPD which are detailed in Appendix I.
<input type="checkbox"/>	Where provided, gas boilers shall meet a minimum standard of <40mgNO <sub>x</sub> /kWh. Preference should be given to domestic heating systems that utilises low carbon heating solutions that are not biomass based.
<input type="checkbox"/>	All residential development with private off-road parking shall be provided with at least one external electric charge point at suitable location that allows for safe access for the recharging of an electric vehicle. Where only shared communal parking is proposed then this shall be provided at an equivalent of one charge point per dwelling, at suitable locations that allow for sufficient and safe access for the recharging of electric vehicles. This requirement will not apply to any development that does not include any car parking provision.
<input type="checkbox"/>	Comprehensive literature on public transport options (locations/timetables etc.) shall be provided to the purchasers of all new dwellings.

## **5.2 Air Quality Assessment.**

Air Quality Assessments (AQA) will be required for all major developments within the SPD area which could increase road traffic or include commercial combustion processes. An AQA will also be required for all residential developments with habitable rooms within 5m of Jewry Street, Romsey Road and St Georges Street.

An AQA is a technical document and it is anticipated that in most instances a specialist Air Quality Consultant will be employed to produce the assessment report.

When an AQA is required it should follow the guidance provided by the Institute of Air Quality Management in their document “Land Use Planning and Development Control: Planning for Air Quality (<https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>).

### **Policy 4 – Air Quality Assessments.**

**Where an Air Quality Assessment is required to accompany a planning application in accordance with policy 1 it should include as a minimum a quantitative assessment of the impact of the scheme on local air quality during both the development and operation phases. This should include detailed dispersion modelling of significant emissions sources (usually road transport and/or combustion processes) associated with the proposed development at existing receptors. The precise methodology employed should be agreed with the Council during consultation prior to application. An outline methodology is given in Appendix B.**

**The applicant should use the decision matrices given in Appendix B to determine the wider scope of the assessment whether the application also requires a construction dust risk assessment and/or consideration of site suitability. (Supplements Local Plan policies DS1, WT1, CP13, DM17, DM19)**

Where an Air Quality Assessment is required, a Delivery Service Plan (DSP) or Construction Traffic Management Plan (CTMP) must be prepared and implemented for the construction phase. This will reduce construction phase emissions by reducing individual trips to and from site, the emissions associated with those vehicles servicing the site and exploring opportunities to reduce unnecessary idling and manoeuvring. The applicant must demonstrate to the satisfaction of the LPA that the impact of the proposed development on air quality will not be significant. If this is not achieved, the applicant will need to provide adequate and suitable mitigation.

## 6 Mitigation

If the proposed development is likely to have a significant effect on air quality then it will only be permitted if adequate and suitable mitigation can be provided. In this situation, the applicant should quantify the impact of the development in terms of damage costs by estimating the emissions of NOx and Particulate Matter. The method for assessing mitigation is set out in chapter 8 of the Institute of Air Quality Management in their document "Land Use Planning and Development Control: Planning for Air Quality. (<https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>).

### Policy 5 – Mitigation

**Development will only be permitted where adequate mitigation is secured to implement the requirements of the Air Quality Statement or Air Quality Assessment. Appendices E and F set out a mitigation and cost benefit appraisal and further information about electric vehicles charging points, which can be used in determining what mitigation should be proposed. The mitigation measures will need to be agreed by the Council and may be subject of conditions or a S106 legal agreement to ensure that they are provided and retained. All developments within the SPD area will be expected to use Non- Road Mobile Machinery (NRMM) that complies with Stage V emissions limits (Appendix K Ref.15) as stated in Appendix C unless there are exceptional mitigating reasons why this is not possible. (Supplements Local Plan policies DS1, WT1, DM19).**

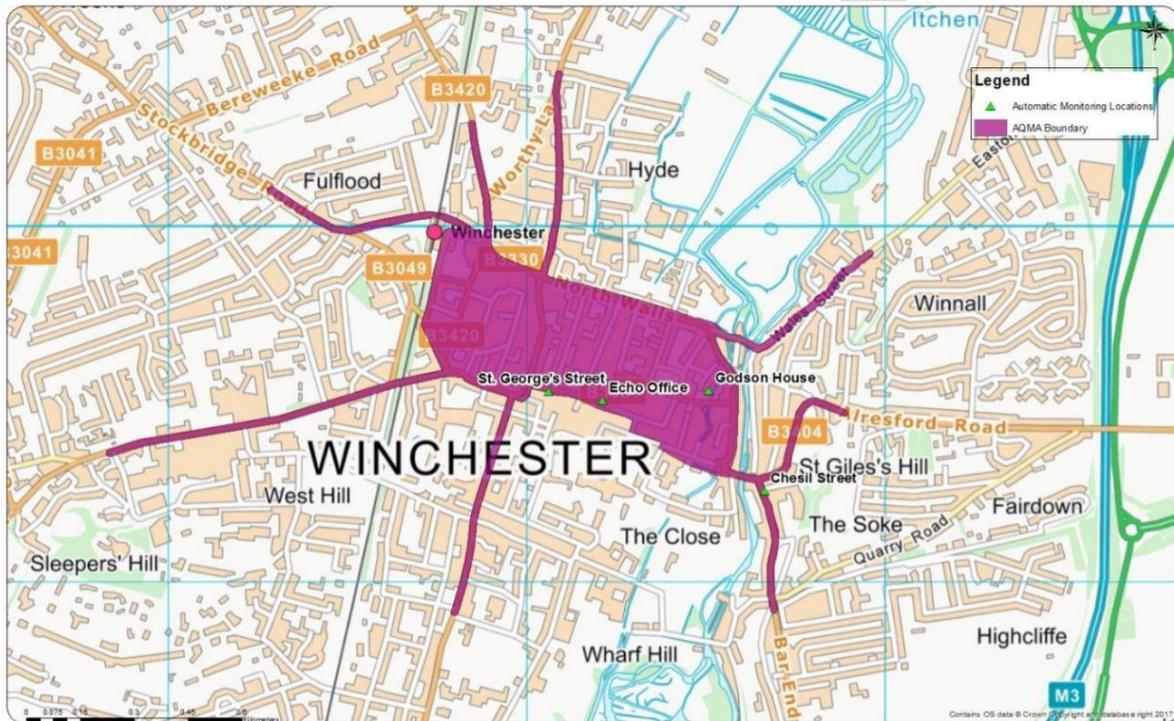
There may be instances where planning permission can only be granted subject to securing mitigation. This can be achieved using planning conditions, which are a mechanism for ensuring the appropriate quality of the development and ameliorate any adverse impacts, or by way of a S106 legal agreement. Either mechanism will ensure that the mitigation measures proposed in a planning application are implemented and thereafter retained. Advice on the use of conditions or the need for a S106 agreement will be given during the planning application process or can be discussed at pre application stage.

If the Council is not satisfied that suitable mitigation can be provided to prevent the adverse impacts of the proposed development on air quality then it can refuse consent on air quality grounds.

## Appendix A Background to Local Air Quality

In 2003, the Winchester City Centre AQMA was designated for exceedances of the annual mean NO<sub>2</sub> objective and 24-hr PM<sub>10</sub> objective. The 24-hour PM<sub>10</sub> AQMA was later revoked in 2013 after a number of years of measured concentrations remaining below objective levels. Details of the current AQMA are available online at [https://uk-air.defra.gov.uk/aqma/local-authorities?la\\_id=314](https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=314) and in Figure A. 1, which additionally include the locations of the Council's automatic monitoring sites. Recently, between the years 2012-2017, a decreasing trend in NO<sub>2</sub> concentrations has been observed at all monitoring locations. There are some year-to-year variations in concentrations, which are likely due to meteorological influences. Further information can be found within the Council's latest Annual Status Report, submitted annually to Defra, and available via the link in Box A.2.

Figure A. 1: WCC AQMA and Monitoring Sites



In May 2017, WCC issued a new AQAP, with the aim of tackling the remaining hotspots in the city centre. In this plan, the Council has prioritised a number of high impact core actions to reduce traffic flow, congestion and emissions within the city centre. These particular measures are under the influence or lie within the direct control of the Council. The County Council as the Highways Authority has also made commitments within the scope of the Local Transport Plan and more specifically within the developing Winchester Movement Strategy, to support the City Council with respect to the preparation of air quality action plans. The Council will also lobby other agencies to assist in the delivery of additional measures and will review progress made on the plan each year. The core actions in the AQAP are given in Box A.1.

### Box A.1: AQAP Core Actions

1. Review current car parking charges and increase the cost to park in central car parks;
2. Review and consider introducing restrictions of delivery vehicles by time of day;
3. Introduce a Park and Ride site in the North of Winchester;
4. Introduce new parking charges to limit diesel and high polluting petrol cars parking in central car parks;
5. Reduce emissions from lorries and buses in the city centre by 2020;
6. Reduce emissions from all Council owned, leased or contracted vehicles by 2020;
7. Put in place requirements to integrate air quality fully into the planning process;
8. Continue to work with and lobby Hampshire County Council to identify and deliver additional projects;
9. Monitor the performance of the plan and reassess the need to introduce additional measures to achieve the objective.

For further information regarding air quality in the UK in general and specifically in Winchester, please consult the information sources below in Box A.2.

#### **Box A.2: Air Quality Information Sources**

*For further information and to find sources of air quality data, visit the following addresses:*

Government air quality information - <https://uk-air.defra.gov.uk/>

Local Air Quality Management - <https://laqm.defra.gov.uk/>

Air Quality in Winchester - <https://www.winchester.gov.uk/environment/air-quality>. You can also raise specific air quality enquires using the email [EH@winchester.gov.uk](mailto:EH@winchester.gov.uk)

Winchester Planning Policy - <https://www.winchester.gov.uk/planning-policy>

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# Appendix B Decision Trees

Figure A. 2: Construction Dust Decision Tree

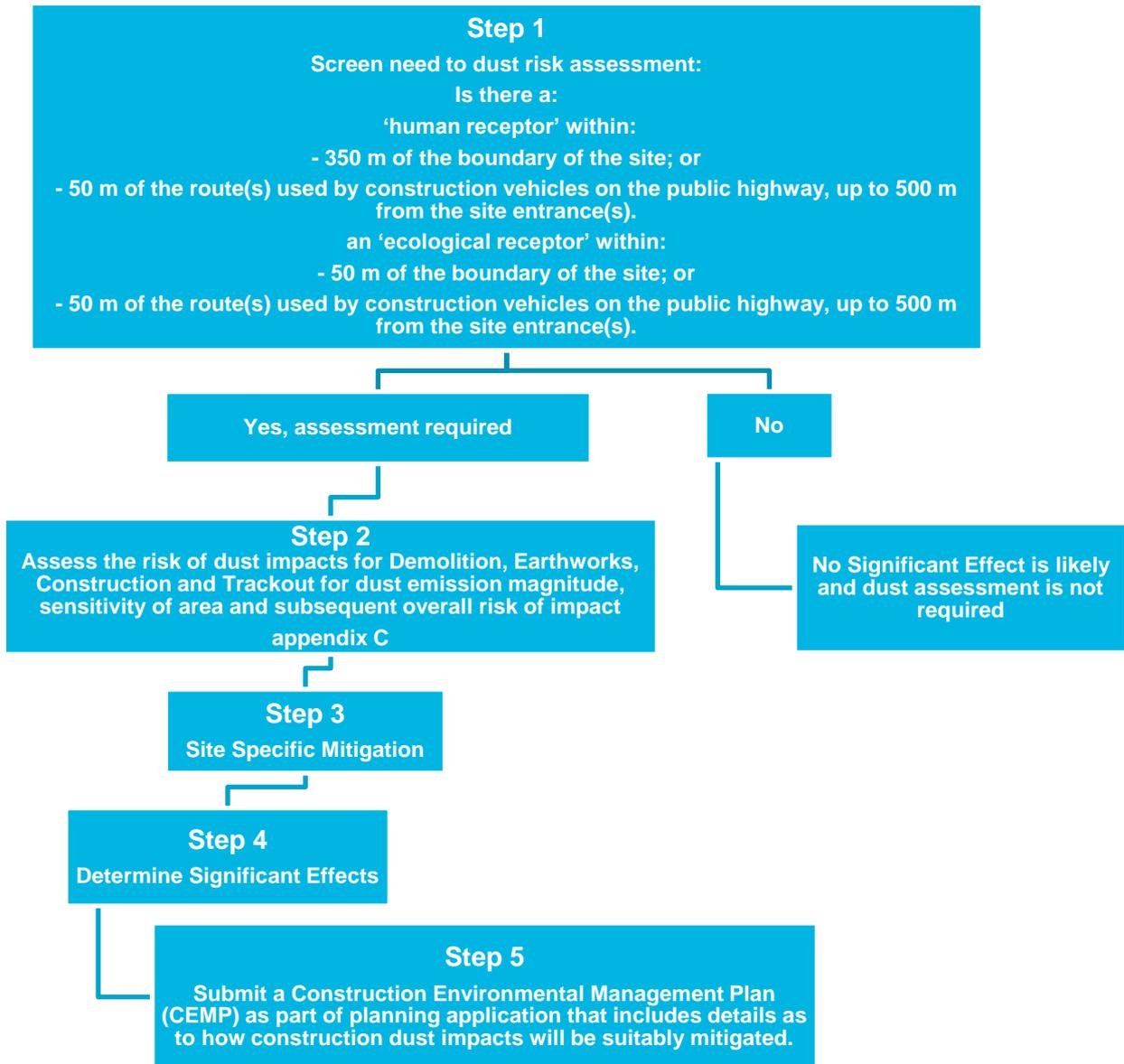


Figure A. 3: Operational Impact Decision Tree

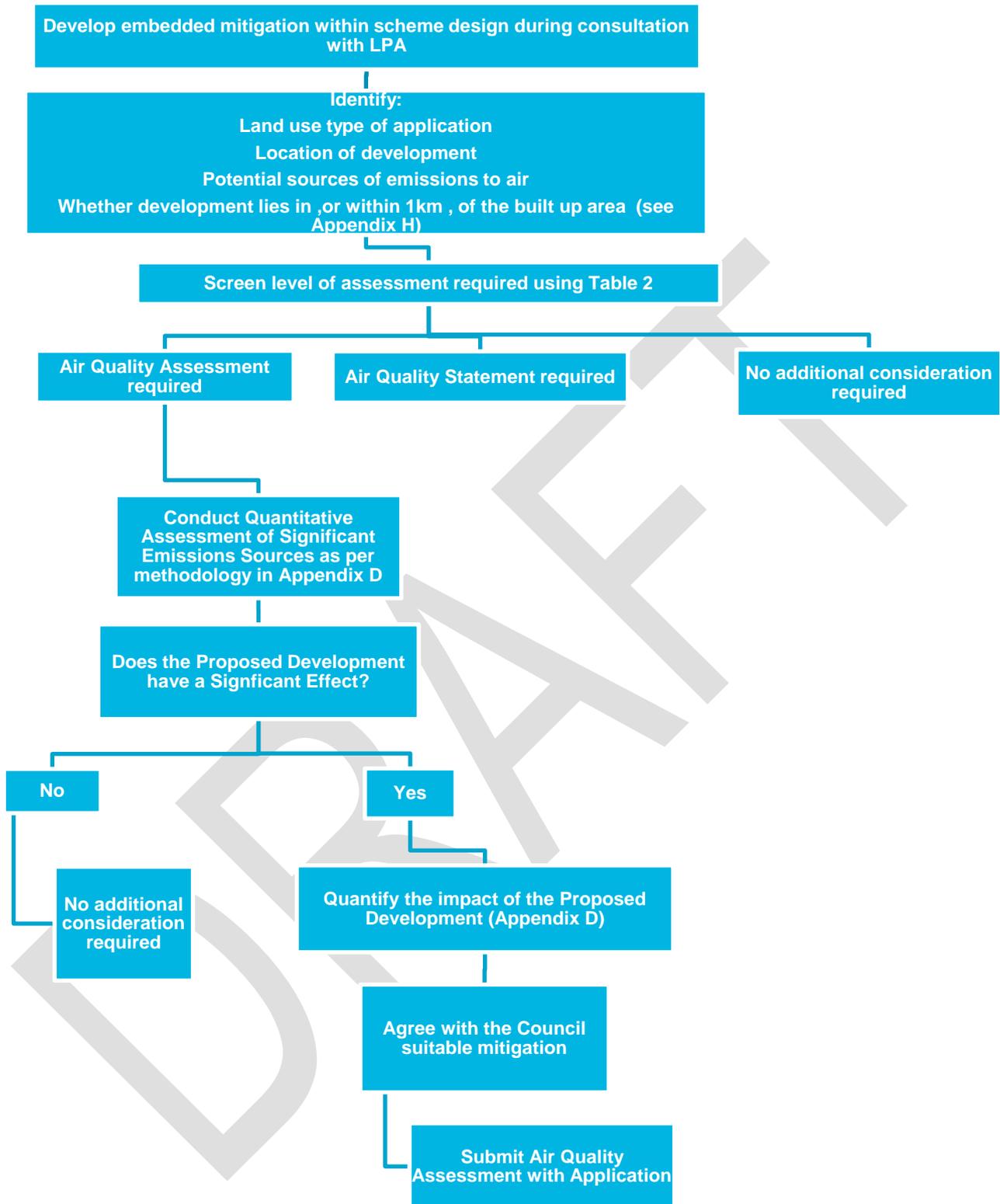
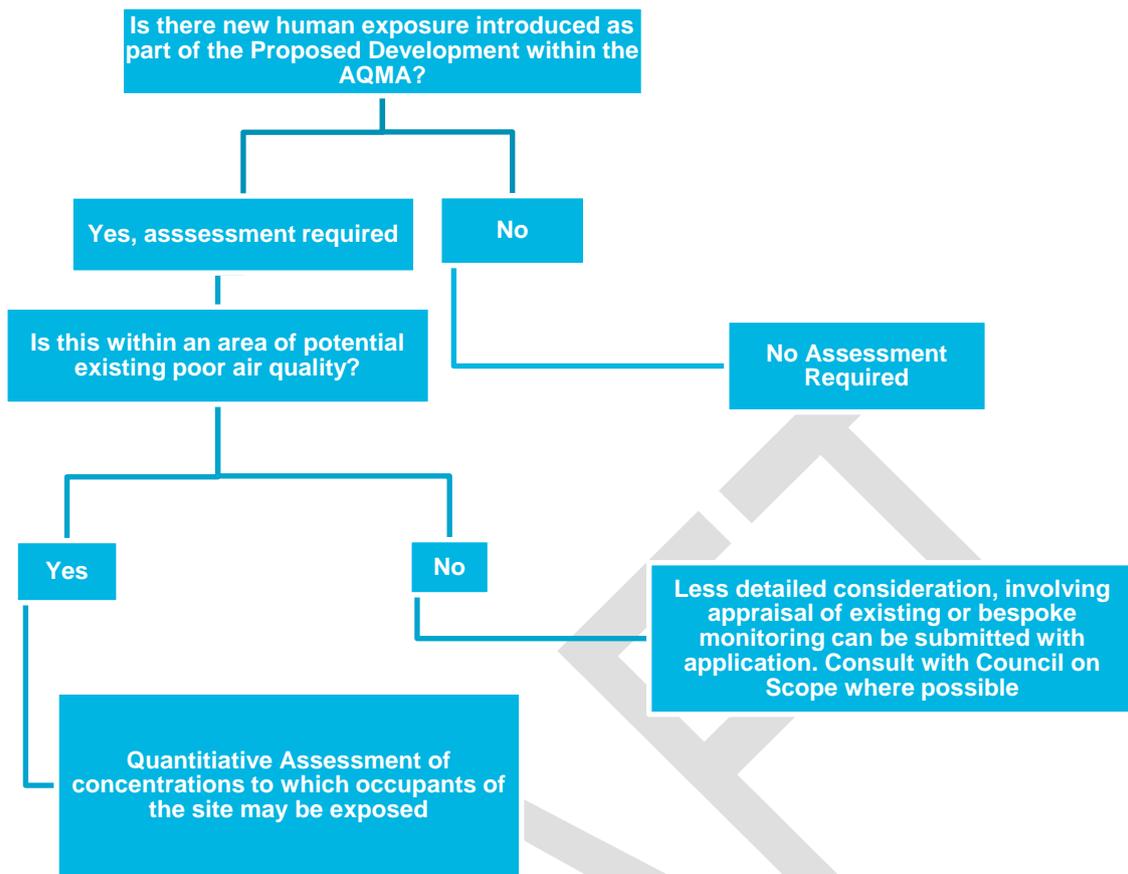


Figure A. 4: Site Suitability (within AQMA)



## Appendix C – Construction Phase Assessment

Where identified as being required, a qualitative construction dust risk assessment should be undertaken in accordance with the IAQM guidance on the Assessment of Dust from Demolition and Construction for the application site. Site-specific mitigation for each of the four potential construction activities should be determined based on the risk of dust impacts identified. These measures are either 'highly recommended', 'desirable' or 'not required'. For general mitigation measures, the highest risk category should be applied. It is expected that the recommended mitigation measures will be documented within a Construction Environmental Management Plan (CEMP) (or equivalent) and agreed with the Council prior to the commencement of construction works.

If the increase in Heavy Duty Vehicles (HDV) traffic flows during the construction phase is greater than the thresholds identified in the EPUK & IAQM guidance, (Appendix K Ref. 11), then detailed dispersion modelling should be carried out to assess the impact, using a similar methodology to that specified below for the operational phase.

During construction, Non-Road Mobile Machinery (NRMM) will be utilised, which could also have an impact on local air quality. Where appropriate and within the control of the developer WCC will expect a written commitment that all NRMM used will meet the Stage V emission limits. If the information is available, the emissions should be quantified for their impact on existing receptors. An inventory of NRMM anticipated to be used should also be provided within the area covered by this SPD.

## Appendix D – Operational Phase Assessment

Dispersion modelling should be undertaken to enable quantification of the impact of the Proposed Development, using a model that has been subject to extensive validation studies. Baseline pollutant concentrations should be established, along with expected concentrations in the opening year of the development without the development in place, and a quantification of the impact of the proposed development. Where a development has a phased implementation, interim assessment years are expected. The latest guidance issued by EPUK & IAQM should be used to assess the significance of effect. It is anticipated that the majority of assessments should include NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, though additional pollutants may be required where ecological receptors are identified. Modelling should be conducted at existing relevant receptors (such as residential premises, schools, hospitals, care homes) and any proposed new receptors on the development.

The most likely impact of a majority of developments will be in the generation of additional road traffic. Emissions from road traffic should be quantified using the latest version of Defra's Emissions Factors Toolkit (EFT, Ref. 22 Appendix K). Emissions should be calculated for each of the years assessed. For developments not anticipated to be operational / occupied for many years (i.e. greater than 5 years from the base year assessment), it may be appropriate to address the inherent uncertainty associated with predicting future NO<sub>2</sub> concentrations using a sensitivity analysis.

The road traffic model should be verified against local monitoring data within the modelled road network, using the methodology outlined in Local Air Quality Management (LAQM) TG(16). For this, the most recent full year of monitoring data should be utilised, which is available online (Appendix A) or on request from WCC. If the Council's monitoring data does not provide suitable geographic coverage to enable model verification, the applicant will be requested to conduct a minimum of 3 months of monitoring.

If the development proposals introduce combustion emissions, these need also be quantitatively assessed using a suitable dispersion model, both for their impact on existing receptors and the concentrations to which the occupants of the development would be exposed. Building entrainment effects and terrain should be considered where appropriate. The applicant should know: the number of units; fuel of each unit; stack height, location and diameter; volumetric flux; efflux temperature and pollutant emission rates in order to assess these emissions accurately. In determining the conversion rate of NO to NO<sub>2</sub> from emissions of NO<sub>x</sub>, 35% and 70% of the modelled NO<sub>x</sub> process contributions can be used for short-term and long-term average concentrations respectively (Ref. 23 Appendix K). This approach is considered acceptable for combustion process contributions, unless more detailed data are available.

Dispersion models require meteorological data to be input in order to run. For road traffic modelling, data should correspond to the monitoring year used for model verification. Where combustion process emissions are modelled, a minimum of three years data should be modelled and the worst-case emissions taken, to account for annual fluctuations in meteorological conditions. Data should be taken from Southampton Airport, unless the use of other datasets has been agreed or collected as part of the scheme.

## Appendix E - Additional Mitigation Assessment and Cost Benefit Appraisal

Table A. 1: Mitigation Assessment and Cost Benefit Appraisal

Mitigation Measures	Cost	Air Quality Benefit
Construction Environmental Management Plan (CEMP) or similar prepared	Low	Medium
Mitigation Commensurate with the Dust risk assessment undertaken to IAQM specification	Low	Medium
Delivery Service Plan (DSP) or Construction Traffic Management Plan (CTMP) prepared / to be prepared for construction phase	Low	Low
NRMM to be utilised in construction adheres to Stage V emissions standards in Regulation (EU) 2016/1628	Medium	High
The residential facades that are closest to the road are as far from the kerb as possible (and from other sources such as stack release points)	Low	High
Lowest level / floor of residential accommodation above ground floor	Low	High
Openable windows located away from vents / emissions release points	Medium	Medium
Barrier / bund / acoustic fence / green wall installed between road and buildings	Medium	Low
Sustainable building guidance / accreditation achieved (e.g. BREEAM for non-domestic and Home Quality Mark (HQM) for domestic)	Medium	Medium
Minimum F7 grade filtration within mechanical ventilation with heat recovery system (MVHR)	Medium	Medium
NO <sub>x</sub> filtration within MVHR	High	High
Renewable energy generation installed (excluding biomass in urban areas)	High	High
Temporary generator use minimised / managed / removed	Low	Medium
Connection to a District Heating Network (where possible) in line with Local Plan Policy CP11	Medium	Low
All gas-fired boilers meet a minimum standard of <40mgNO <sub>x</sub> /kWh	Low	Low
All gas-fired CHP plant to meet a minimum emissions standard of: Spark ignition engine: 250mgNO <sub>x</sub> /Nm <sup>3</sup> ; Compression ignition engine: 400mgNO <sub>x</sub> /Nm <sup>3</sup> ; Gas turbine: 50mgNO <sub>x</sub> /Nm <sup>3</sup>	Low	Low
Provision of, or access to, an Electric Vehicle (EV) charge point for every residential dwelling and/or per every 1000m <sup>2</sup> of commercial floor space	Low	High
Travel Plan created	Low	Medium
Information and Awareness Campaigns	Low	Low
Encourage / Facilitate homeworking	Low	Low
Cycling infrastructure provided	Low	Medium
Public transport provision provided / supplemented (e.g. bespoke bus service provided)	High	Medium
Parking spaces minimised as far as practicable in line with Parking Standards SPD	Low	Medium

Mitigation Measures	Cost	Air Quality Benefit
A delivery strategy / hub developed in order to minimise impact of LGV and HGV visits to Site (e.g. out of hours delivery, zero emissions last mile delivery)	High	Medium
Participation in voluntary fleet recognition / emissions reductions schemes e.g. ECO Stars, Logistics Emissions Reduction Scheme (LERS)	Low	Low
Development plans are demonstrably beneficial to air quality as compared to previous use	N/a	High
Development procurement follows sustainable procurement guidance	Low	Low

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## Appendix F - Electric Vehicle Infrastructure Specification

This appendix provides further detail on the expectations in terms of specification and management of electric vehicle charging infrastructure associated with new development.

Four levels of capability are identified: standard, fast, rapid and super / ultra-rapid. Standard charge points can provide a typical full charge in approximately 7-8 hours, fast in approximately 4 hours, rapid in around 30-40 minutes and super / ultra-rapid in less than 30 minutes.

**Table A. 2: Typical Technical Standards**

Speed	Voltage (V)	Current (Amps)	Nominal charge power (kW)	Typical Application	Charging Speed
Standard	230 AC	13-16, single phase	3	Residents' parking Employees' parking	7-8 hours
Fast	230 AC	32, single phase	7	Retail / leisure parking Residential & employment visitor parking	4 hours
Rapid	430 AC and 500-600 DC	32-63A three phase and up to 125 DC	20-50	Specialist applications	30-40 minutes
Super/Ultra - Rapid	DC	Three phase	120-140	Tesla chargers	<30 minutes

The rating recommended for 'standard' EV charging infrastructure is 16 Amps. Three-pin 13 Amp domestic sockets are not endorsed for EV charging because they are not designed for continuous full power operation. EV manufacturers generally limit charging from a 13 Amp supply to 10-11 Amps in order to protect standard circuits. The additional power capability of a 16 Amp supply will ensure a full charge can be delivered in the approximate 6-hour overnight period of low background electricity demand. In line with guidance from the Office for Low Emissions Vehicles (Appendix K Ref. 26) and the European Automobile Manufacturers' Association, the default socket type to install at 'active' charge points should be the Type 2 the IEC62196-2. In order to reduce clutter in parking areas the installation of charge points with two outputs could be considered, i.e. one charge post with an outlet on either side to serve two active parking spaces. Installation of smart meter enabled EV charge points is encouraged to facilitate off-peak charging and use of off-peak electricity tariffs.

Active provision requires fully wired and connected 'ready to use' charge points at parking spaces. Passive provision requires the necessary underlying infrastructure (e.g. capacity in the connection to the local electricity distribution network and electricity distribution board, as well as cabling to parking spaces) to enable simple installation and activation of a charge point at a future date. Passive charging infrastructure future-proofs new developments for the projected increase in take-up of EVs over the longer term. It is significantly cheaper and less disruptive to install the underlying infrastructure for EV charge points during construction than to retrofit later. Passive charging infrastructure enables future users of that development to not only choose whether or not to own an EV, but also provides future choice as to which charging point best suits their requirements. One way of achieving passive provision would involve routing an empty cable conduit under one end of parking bays in a row, and ensuring this conduit also connects to the electrical mains, such that at a later date, a power supply cable could be fitted inside the conduit and aboveground charge points then installed with a minimum of excavation of parking bays. In residential developments, developers should ensure that power supplies are available inside a building wall near to any parking bay so that the relevant charging equipment can be fitted without requiring large amounts of additional wiring.

In support of the WCC Electric Vehicle Charging Strategy and reflective of guidance within the current London Plan (Appendix K Ref. 27), for all new developments, access to Electric Vehicle (EV) charging points will be required with at least the following provision in Table A. 14.

**Table A. 1: Minimum EV Provision Required**

<b>Parking Spaces Intended</b>	<b>Residents</b>	<b>Employees</b>	<b>Visitors / shoppers / clients</b>
Active (per cent of total parking spaces)	20%	20%	10%
Passive (per cent of total parking spaces)	20%	10%	10%
Total (active + passive as per cent of total parking spaces)	40%	30%	20%

Whilst the above provision is recommended, charging point specifications and requirements may be different per application site, and technology associated with these vehicles is constantly evolving. As such, consultation should be sought with the LPA prior to installation. Once agreement has been reached with the LPA, the electrical specifications should comply with the Institution of Engineering and Technology (IET) code of practice on Electric Vehicle Charging Installation 3 (Appendix K Ref. 28).

## **Funding**

A range of financial incentives to electrify vehicles are available, including:

- The Government offers grants for new plug-in vehicles, currently up to £3,500 for cars, £1,500 for motorcycles, £8,000 for vans, £7,500 for taxis and low-emission vehicles can receive up to £3,500;
- Zero emission capable vehicles pay either no Vehicle Excise Duty (VED) or a reduced rate depending on their CO<sub>2</sub> emissions, vehicle list price and year of registration;
- There is a range of tax incentives for business users; and
- £400 million Charging Infrastructure Investment Fund (Appendix K Ref. 29) to help accelerate charging infrastructure deployment.

For publicly available charging points, it is recommended that the network be compatible with the Genie Point pay system used within Hampshire County Council EV Charging Framework (Appendix K Ref. 30).

## Appendix G - Further Policies / Guidance

### International

The Clean Air for Europe (CAFE) programme consolidated and replaced (with the exception of the 4<sup>th</sup> Daughter Directive) preceding directives with a single legal act, the Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC (Ref. 6 Appendix K). These limit values are binding and are considered to apply everywhere (with the exception of the carriageway and central reservation of roads and any locations where the public do not have access), and are the principal driver behind many Council's being mandated to investigate the feasibility of a Clean Air Zone (CAZ) in the government's UK Plan for tackling roadside NO<sub>2</sub> (Appendix K Ref. 31).

### National

The UK National AQS sets objective values for key pollutants as a tool to help local authorities manage local air quality in accordance with the EU Air Quality Directive. These are transcribed into UK law in the Air Quality Standards (as amended) (Appendix K Ref. 32). The AQS objectives are set for the purposes of Local Air Quality Management (LAQM) under the provisions of Part IV of the Environment Act 1995 (Appendix K Ref. 33), and apply only at locations where there is public exposure over the averaging timescales of the respective objectives. Where AQS objectives are not met, an AQMA must be declared.

A summary of the AQS objectives of principal relevance to planning within WCC are provided in Table A. 4.

**Table A. 4: Air Quality Strategy Objectives**

Pollutant	Legislation	Averaging Period	Value	Maximum Permitted Exceedances
Nitrogen Dioxide (NO <sub>2</sub> )	AQS objective	Annual Mean	40µg/m <sup>3</sup>	None
		Hourly Mean	200µg/m <sup>3</sup>	18 times per year
Particulate Matter (PM <sub>10</sub> )	AQS objective	Annual Mean	40µg/m <sup>3</sup>	None
		24-hour Mean	50µg/m <sup>3</sup>	35 times per year
Fine Particulate Matter (PM <sub>2.5</sub> )	AQS objective	Annual Mean	25µg/m <sup>3</sup>	Not applicable
		Annual Mean	Work towards reducing emissions / concentrations	Not applicable

In 2019, the UK government released its much-anticipated Clean Air Strategy 2019, part of its 25 Year Environment Plan (Appendix K Ref. 34). The Strategy places greater emphasis on improving air quality in the UK than has been seen before and outlines how it aims to achieve this (including the development of new enabling legislation).

Air quality management focus in recent years has primarily related to one pollutant, NO<sub>2</sub>, and its principal source in the UK, road traffic. However, the 2019 Strategy broadens the focus to other areas, including domestic emissions from wood burning stoves and from agriculture. This shift in emphasis is part of a goal to reduce the levels of fine particulate matter (PM<sub>2.5</sub>) in the air to below the World Health Organisation guideline level; far lower than the current EU limit value.

The updated National Planning Policy Framework (NPPF) (Appendix K Ref. 8) was published in July 2018 (and revised in June 2019) and concisely sets out national policies and principles on land use planning.

Air quality is considered as an important element of the natural environment. On conserving and enhancing the natural environment, Paragraph 170 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 ...”*

Air quality in the UK has been managed through the Local Air Quality Management (LAQM) regime using national objectives. The effect of a proposed development on the achievement of such policies and plans are matters that may be a material consideration by planning authorities, when making decisions for individual planning applications. Paragraph 181 of the NPPF states that:

*“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.”*

The Planning Practice Guidance (PPG) (Appendix K Ref. 9) is a web-based resource which is updated regularly having been originally launched in March 2014. The PPG states that the planning system should consider the potential effect of new developments on air quality where relevant limits have been exceeded or are near the limit. Concerns also arise where the development is likely to adversely affect the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife). In addition, dust can also be a planning concern, for example, because of the effect on local amenity.

On how detailed an air quality assessment needs to be, the PPG states:

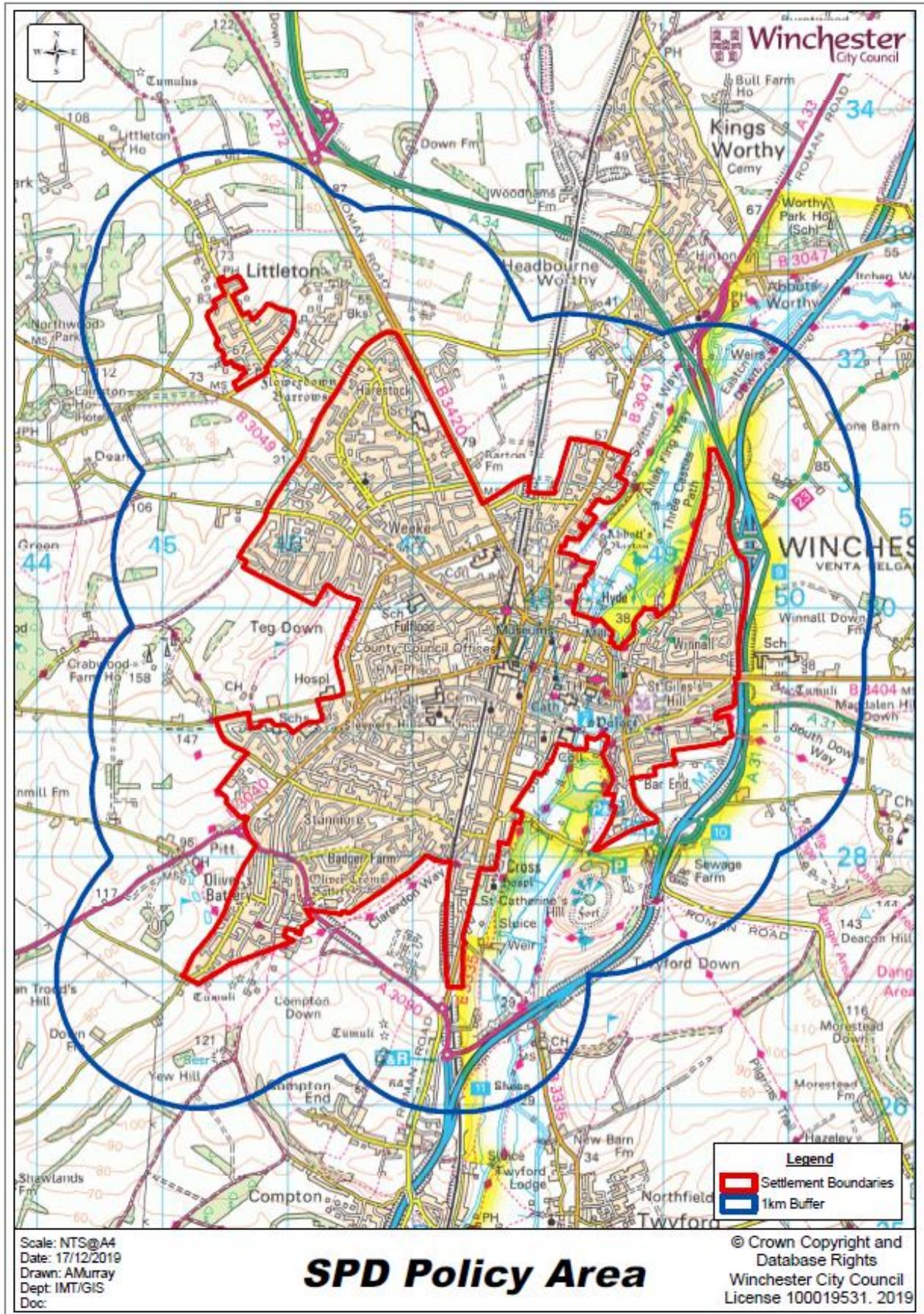
*“Assessments need to be proportionate to the nature and scale of development proposed and the potential impacts (taking into account existing air quality conditions), and because of this are likely to be locationally specific. The scope and content of supporting information is best discussed and agreed between the local planning authority and applicant before it is commissioned...Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact. It is important that local planning authorities work with applicants to consider appropriate mitigation so as to ensure new development is appropriate for its location and unacceptable risks are prevented. Planning conditions and obligations can be used to secure mitigation where the relevant tests are met.” (para 007).*

A number of policy and guidance documents pertinent to air quality further to those directly referenced within this document are available for consideration and are summarised below.

**Table A. 5: Further Policies / Guidance**

Name	Locale	Summary of Relevance to Air Quality	Reference
Medium Combustion Plant Directive	International	Regulates pollutant emissions from the combustion of fuels in plants with a rated thermal input equal to or greater than 1 megawatt (MW <sub>th</sub> ) and less than 50 MW <sub>th</sub>	Ref. 35
The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018	National	These Regulations translate into UK law Regulation (EU) 2016/1628 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery	Ref. 36
Clean Air Act 1993	National	Primarily regulates small combustion processes	Ref. 37
Air Quality (England) Regulations 2000 and as amended 2002	National	Sets air quality standards in England	Ref. 38
LAQM Policy Guidance 2016 (LAQM.PG(16))	National	Outlines guiding policy principles for local authorities in their assessment of local air quality management	Ref. 39

Appendix H–SPD Policy area in Blue (Winchester Built-up area shown in red)



## Appendix I – Cycling Provision Standards – SPD on Residential Parking Standards

Policy 8 of the Residential Parking Standards SPD (Appendix K Ref. 19) states:

*“All new developments must provide appropriately designed and located cycle parking that meets the required standards.”*

All new development must make sure that adequate secure undercover and accessible cycle parking is provided to meet the following minimum standards for long and short stay cycle parking. These have been adopted from the Hampshire County Council Parking Strategy and Standards 2002 (Appendix K Ref. 40).

**Table A. 2: Cycling Provision Standards for Residential Development**

Dwelling Size	Long Stay	Short Stay
1 Bed	1 space per unit	1 loop / hoop per unit
2 Bed	2 spaces per unit	1 loop / hoop per unit
3 Bed	2 spaces per unit	1 loop / hoop per unit
4+ Bed	2 spaces per unit	1 loop / hoop per unit

The provision of long stay cycle parking should be in the form of secure, weatherproof facilities. For flats and similar developments, the provision of individual cycle stores or lockers that are integral to the building should be the aim. For houses, the provision of a suitable size garage (6m x 3m) can provide sufficient space for a vehicle and cycle parking. Houses without garages should provide a garden shed, which should be constructed so that a cycle hoop or security anchor can be secured to the wall. Facilities in all cases should provide security for the whole bicycle, including accessories.

It is recommended that cycle stores serving blocks of flats, are located within the building and accessed from the entrance foyer. External cycle stores should be as close to a building entrance as possible. It is essential that communal cycle stores be fitted from the outset with cycle lockers. In the case of the smallest stores 'security anchors' or hoops can be fixed to the walls.

Short stay parking needs to accommodate cycle parking for periods of up to half a day. Security is required for the cycle frame and at least one wheel. Weather protection is desirable. Parking should be located as close to the trip destination as possible. It should be overlooked by adjacent development or on well used pedestrian routes to minimise risks of theft or vandalism.

## Appendix J - Glossary of Terms

Table A. 1: Glossary of Terms

Term	Definition
AC	Alternating Current
AQA	Air Quality Assessment
AQS	Air Quality Statement
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
BREEAM	Building Research Establishment Environmental Assessment Method
CAFE	Clean Air For Europe
CAN	Clean Air Network
CAZ	Clean Air Zone
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CIL	Community Infrastructure Levy
CO <sub>2</sub>	Carbon Dioxide
CTMP	Construction Traffic Management Plan
DC	Direct Current
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DSP	Delivery Service Plan
EFT	Emissions Factors Toolkit
EPUK	Environmental Protection UK
EU	European Union
EV	Electric Vehicle
HDV	Heavy Duty Vehicle
HGV	Heavy Goods Vehicle
HQM	Home Quality Mark
IAQM	Institute of Air Quality Management
IET	Institution of Engineering and Technology
IGCB	Inter-Governmental Department on Costs and Benefits
JAQU	Joint Air Quality Unit
kg/annum	kilogrammes per annum
kph	Kilometres per hour
kWh	Kilowatt hours
LAQM	Local Air Quality Management
LAQM.PG(16)	Local Air Quality Management Policy Guidance 2016
LAQM.TG(16)	Local Air Quality Management Technical Guidance 2016
LEP	Local Enterprise Partnership
LEZ	Low Emission Zone
LDV	Light Duty Vehicle
LGV	Light Goods Vehicles
LPA	Local Planning Authority
LPP1	Local Plan Part 1
LPP2	Local Plan Part 2
mg	Milligrams

MVHR	Mechanical Ventilation with Heat Recovery
MW <sub>th</sub>	Megawatt Thermal
Nm <sup>3</sup>	Normalised metres cubed
NO	Nitrogen Oxide
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Oxides of Nitrogen
NPPF	National Planning Policy Framework
NRMM	Non-Road Mobile Machinery
PCM	Pollution Climate Mapping
PM <sub>2.5</sub>	Particulate Matter with an aerodynamic diameter of less than 2.5 micrometres
PM <sub>10</sub>	Particulate Matter with an aerodynamic diameter of less than 2.5 micrometres
PPG	Planning Practice Guidance
SPD	Supplementary Planning Document
VED	Vehicle Excise Duty
WCC	Winchester City Council

DRAFT

## Appendix K - References

- Ref. 1. HMSO (2012) Town and Country Planning, England; The Town and Country Planning (Local Planning) (England) Regulations 2012 No. 767
- Ref. 2. Winchester City Council (2013) Local Plan Part 1 - Joint Core Strategy Adopted March 2013 & Local Plan Review 2006
- Ref. 3. Winchester City Council (2016) Local Plan Part 2 - Development Management & Allocations
- Ref. 4. Winchester City Council (2017) Winchester City Council Air Quality Action Plan
- Ref. 5. Department for Environment Food and Rural Affairs (Defra), (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
- Ref. 6. Council of European Communities, (2008) Ambient Air Quality and Cleaner Air for Europe Directive, 2008/50/EC
- Ref. 7. Defra (2019) Clean Air Strategy 2019, Available at: <https://www.gov.uk/government/publications/clean-air-strategy-2019>
- Ref. 8. Ministry of Housing, Communities and Local Government (MHCLG), (2018) National Planning Policy Framework 2018
- Ref. 9. Ministry of Housing, Communities and Local Government (MHCLG), (2014) Planning Practice Guidance (Air Quality) Available at: <https://www.gov.uk/guidance/air-quality--3>
- Ref. 10. IAQM (2014) IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London. [www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf](http://www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf).
- Ref. 11. EPUK&IAQM (2017) Land-use Planning & Development Control: Planning for Air Quality. v1.2. Institute of Air Quality Management, London.
- Ref. 12. Defra (2016) Local Air Quality Management Technical Guidance LAQM.TG(16). April 2016 (as amended February 2018). Published by Defra in partnership with the Scottish Government, Welsh Assembly Government, and Department of the Environment for Northern Ireland.
- Ref. 13. HMSO (2014) Community Infrastructure Levy (Amendment) Regulations 2014, Available at: <https://www.legislation.gov.uk/ukdsi/2014/9780111106761/contents>
- Ref. 14. Winchester City Council (2015) High Quality Places Supplementary Planning Document (SPD)
- Ref. 15. Regulation (EU) 2016/1628, [https://ec.europa.eu/growth/sectors/automotive/environment-protection/non-road-mobile-machinery\\_en](https://ec.europa.eu/growth/sectors/automotive/environment-protection/non-road-mobile-machinery_en)
- Ref. 16. HM Government (2018) The Road to Zero Next steps towards cleaner road transport and delivering our Industrial Strategy, Department for Transport, Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/739460/road-to-zero.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf)
- Ref. 17. H.M. Government (2019) Electric Vehicle Charging in Residential and Non-Residential Buildings.
- Ref. 18. Winchester City Council (2012) Winchester District Cycling Strategy
- Ref. 19. Winchester City Council (2017) Car Parking Standards Supplementary Planning Document (SPD)
- Ref. 20. Winchester City Council (2014) Community Infrastructure Levy and Planning Obligations; A guide for developers and land owners (April 2014)
- Ref. 21. HM Government (1990) Town and Country Planning Act 1990 Chapter 8
- Ref. 22. Defra (2017) Emissions Factors Toolkit, Available at: <https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html>

- Ref. 23. Environment Agency (2014) Conversion Ratios for NO<sub>x</sub> and NO<sub>2</sub>,  
[http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environmentagency.gov.uk/static/documents/Conversion\\_ratios\\_for\\_NOx\\_and\\_NO2\\_.pdf](http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environmentagency.gov.uk/static/documents/Conversion_ratios_for_NOx_and_NO2_.pdf)
- Ref. 24. Defra (2019) Damage Costs Approach, <https://www.gov.uk/guidance/air-quality-economic-analysis#damage-costs-approach>
- Ref. 25. IAQM (2018) Mitigation of Development Air Quality Impacts, Available at:  
[https://iaqm.co.uk/text/position\\_statements/mitigation\\_of\\_development.pdf](https://iaqm.co.uk/text/position_statements/mitigation_of_development.pdf)
- Ref. 26. OLEV (2011) Making the Connection The Plug-In Vehicle Infrastructure Strategy  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/3986/plug-in-vehicle-infrastructure-strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3986/plug-in-vehicle-infrastructure-strategy.pdf)
- Ref. 27. Greater London Authority (2016) The London Plan: The Spatial Development Strategy for London Consolidated with Alterations Since 2011.
- Ref. 28. Institution of Engineering and Technology (2018) Code of Practice for Electric Vehicle Charging Equipment Installation – 3<sup>rd</sup> Edition
- Ref. 29. HM Government (2018) Charging Infrastructure Investment Fund:  
<https://www.gov.uk/government/news/taking-charge>
- Ref. 30. Hampshire County Council (2018) <https://www.hants.gov.uk/transport/ev-charging-points>
- Ref. 31. Joint Air Quality Unit (2017) UK plan for tackling roadside nitrogen dioxide concentrations, An overview, July 2017
- Ref. 32. HMSO, (2016) The Air Quality Standards (Amendment) Regulations 2016 No. 1184, The Stationery Office
- Ref. 33. H.M. Government (1995) The Environment Act
- Ref. 34. Department for Environment, Food and Rural Affairs (Defra) (2018) 25 Year Environment Plan
- Ref. 35. Directive (EU) 2015/2193 of the European Parliament and of the Council of 25 November 2015 on the limitation of emissions of certain pollutants into the air from medium combustion plants
- Ref. 36. The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations (2018) Statutory Instrument 2018 No. 764, Environmental Protection
- Ref. 37. Clean Air Act (1993) London: HMSO, Available at: <http://www.legislation.gov.uk/ukpga/1993/11/contents>
- Ref. 38. HMSO, (2002); The Air Quality (England) (Amendment) Regulations 2002, Statutory Instrument No 3043, The Stationery Office
- Ref. 39. Defra (2016) Local Air Quality Management Policy Guidance LAQM.PG(16). April 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government, and Department of the Environment for Northern Ireland.
- Ref. 40. Hampshire County Council (2002) Hampshire Parking Strategy and Standards (2002), Available at:  
<http://www.hants.gov.uk/decisions/decisions-docs/020208-spjapl-R4.html>