

**WOOLFOX GARDEN VILLAGE, RUTLAND**  
**TECHNICAL NOTE: AIR QUALITY**  
**March 2019**  
**OUR REF: 24785.01\_04\_TN\_01**

Mewies Engineering Consultants Ltd (M-EC Acoustic Air) has been commissioned by Andrew Granger & Co. to undertake air quality assessment work in support of a Sustainability Appraisal of the site at Woolfox Garden Village, Woolfox Farm, Rutland.

As development traffic trip distribution work is not being undertaken at this early stage, it has not been possible to undertake initial prediction of air pollutant concentrations, and subsequent assessment of the development traffic impact upon local air quality (it is envisaged that a detailed air quality assessment would be undertaken at the later planning stages, if required by the Local Planning Authority (LPA)).

This Technical Note therefore provides information relating to the local baseline conditions, assessment scope and methodology of the detailed air quality assessment that would be undertaken if required, and details of how any subsequently identified air quality impacts will be mitigated.

Baseline Conditions

The principle sources of emissions affecting the proposed site will be local road traffic using the A1, Great North Road, which runs adjacent to parts of the western boundary of the site, and to a lesser extent, Clipsham Road and Stretton Road, adjacent to the northern site boundary.

A review of Rutland County Council's (RCC) Local Air Quality Management documents, including their most recently published 2018 Annual Status Report (ASR) has been undertaken, with key air quality considerations relating to the proposed development and neighbouring area summarised below.

Air quality within the County of Rutland is generally good and to date, no Air Quality Management Areas (AQMA) have been designated. RCC's most recently published 2018 ASR indicates no exceedances, or likely exceedances to the Air Quality Objectives (AQO). RCC currently operates 11 nitrogen dioxide (NO<sub>2</sub>) diffusion tube monitoring sites throughout the County, with annual mean NO<sub>2</sub> monitoring results in 2017 ranging from 9.8 µg/m<sup>3</sup> in Egleton (Site 9) to 28.2 µg/m<sup>3</sup> in Uppingham (Site 2). The 2017 monitoring results show that NO<sub>2</sub> levels have not changed significantly since 2016, with the largest increase being 3.2 µg/m<sup>3</sup> in Caldecott (Site 1). In fact, some monitoring locations experienced decreases in NO<sub>2</sub> levels indicating no single overall trend in the 2017 monitoring results. All monitoring locations show levels below the annual mean objective of 40 µg/m<sup>3</sup>.

There are no identified exceedances of the AQO, or potential areas of concern at existing dwellings adjacent to the proposed site at Woolfox Farm. Therefore, since 'relevant exposure' is already present adjacent to the site, i.e. existing residential dwellings are present adjacent to the site and local roads, and these have already been considered within RCC's reviews and assessments, the conclusions for these will equally apply for new dwellings on the application site. Namely, all air quality objectives will be satisfied on the site and at dwellings adjacent to the routes to the proposed development site.

Air Quality Assessment Methodology

Detailed scoping discussions would be undertaken with the LPA's Environmental Health Officer (EHO), in order to agree the scope of the air quality assessment and establish the use of the ADMS-Roads air quality dispersion modelling software, averaging periods to be considered, study area/road links to be included and the requesting of local air quality monitoring data to be used for model verification.

A detailed air quality assessment would be undertaken to confirm NO<sub>2</sub> and PM<sub>10</sub> pollutant concentrations at the site, and to quantify increases arising from development traffic within local area, based on guidance set out within Defra's Local Air Quality Management (IAQM) Technical Guidance 2016, and

EPUK’s ‘Land-Use Planning and Development Control: Planning for Air Quality, and any other LPA guidance.

The guidance clarifies when an air quality assessment is required and what it should contain. Importantly, it sets out a recommended approach that can be used to assess the significance of the air quality impacts and minimise these impacts through good design and application of appropriate mitigation measures.

The purpose of the air quality assessment would be to define the likely quantitative changes in air quality or exposure to air pollution as a result of the proposed development.

The suggested framework for describing air quality impacts is set out in Table 1. The term Air Quality Assessment Level (AQAL) is used to include air quality objectives or limit values, where these exist. The Table is only intended to be used with annual mean concentrations, and all % changes are rounded up or down to whole numbers. At exposures less than 75% of the AQAL, the degree of harm is described as likely to be small. As the exposure encroaches and exceeds the AQAL the degree of harm increases, and the change becomes more important when the result is an exposure that is approximately equal to or greater than the AQAL.

**Table 1: Impact Descriptors for Individual Receptors**

Long term average Concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1	2-5	6-10	>10
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

Mitigation

Where necessary, and dependent upon the level of predicted impact and LPA requirements, a suitable mitigation strategy proportionate to the predicted development impact would be identified.

Proposed mitigation measures would be developed in liaison with RCC, to maximise opportunities to improve air quality in the area.

Dependent upon predicted impact and LPA discussions, the mitigation strategy may include:

- Best practice measures such as provision of electric vehicle charging points, and implementation of a Travel Plan; and
- Dependent upon the development impact, contribution funding to local Air Quality Action Planning work, or the implementation of identified improvement schemes/actions.

Summary

- A review of RCC’s Local Air Quality Management documents indicates that air quality within the County is generally good and to date, no Air Quality Management Areas have been designated.
- Since ‘relevant exposure’ is already present adjacent to the site, i.e. existing residential dwellings are present adjacent to the site and local roads, and these have already been considered within RCC’s reviews and assessments, the conclusions for these will equally apply for new dwellings on the application site. Namely, all air quality objectives will be satisfied on the site and at dwellings adjacent to the routes to the proposed development site.

- Detailed air quality assessment would be undertaken to confirm NO<sub>2</sub> and PM<sub>10</sub> pollutant concentrations at the site, and to quantify increases arising from development traffic within the local area. Impact significance would then be established and where necessary, a mitigation strategy developed in liaison with RCC to maximise opportunities to improve air quality in the area.

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