

## TECHNICAL NOTE

**Job Name:** Station Fields, Foxton  
**Job No:** 47235  
**Note No:** AQ01  
**Date:** 28<sup>th</sup> January 2020  
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**Subject:** Air Quality Constraints

Item	Subject
1.	<p><b><u>Introduction</u></b></p> <p>This note addresses the likely environmental constraints with respect to air quality relating to the proposed development at Station Fields, Foxton, located in the administrative boundary of South Cambridgeshire District Council (SCDC).</p>
2.	<p><b><u>Baseline Conditions</u></b></p> <p>The site is located between the villages of Foxton, Barrington and Shepreth. The A10 runs adjacent to the south-eastern boundary. Residential properties are located to the southeast of the site, whilst to the north and west, the area is primarily agricultural. A rail line runs east/west across the site; the rail line is electrified and therefore not considered an issue for air quality.</p> <p>SCDC has declared an Air Quality Management Area (AQMA) in the District due to exceedances of both the annual mean nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub>) objective of 40 µg/m<sup>3</sup>. The AQMA is located over 11 km north of the site. Cambridge City Council have also declared an AQMA for exceedances of the NO<sub>2</sub> objective, located in central Cambridge, over 9km northeast of the proposed development site.</p> <p>SCDC undertake air quality monitoring across the district, the closest monitoring site is an NO<sub>2</sub> diffusion tube, located in Harston approximately 2.5 km northeast of the site. Measured annual mean concentrations ranged from 14.4 -17.8 µg/m<sup>3</sup> between 2014 and 2018, well below the objective of 40 µg/m<sup>3</sup>. Concentrations at the proposed development site are also expected to be well below the air quality objectives.</p>
3.	<p><b><u>Potential Constraints</u></b></p> <p>Based on a desktop review of the site location, the following potential air quality issues have been identified:</p> <ul style="list-style-type: none"> <li>• the impact of existing local pollution sources, in particular local road traffic emissions, on the development site itself; and</li> <li>• the impact of the development on the surrounding area, during both the construction and operational phases.</li> </ul> <p>The principal air pollutants of concern with respect to the development will be:</p> <ul style="list-style-type: none"> <li>• NO<sub>2</sub>;</li> <li>• fine airborne particles (PM<sub>10</sub> and PM<sub>2.5</sub>); and</li> <li>• construction dust.</li> </ul> <p>The main sources of these pollutants are likely to be a result of road vehicles (NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>) and construction activities (dust and PM<sub>10</sub>). Professional experience indicates that other sources of pollutants will not be significant from this type of development.</p>

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	<p><b>Constraints due to Baseline</b></p> <p>The site is not located within an AQMA and monitoring of NO<sub>2</sub> concentrations in the area indicate that concentrations are well below the annual mean objectives. In relation to potential constraints due to existing transportation sources, the A10 border the site's southern boundary and is likely to dominate pollutant concentrations within close proximity to the road. Whilst some separation from the A10 to residential properties would be beneficial, it is considered that noise related setbacks would provide adequate protection in relation to air quality.</p> <p><b>Constraints due to Potential Development Impacts</b></p> <p>When considering the potential impacts of dust during construction, it is standard practice to undertake a qualitative assessment of the risk of dust impacts. Mitigation would be secured by planning condition and with appropriate mitigation in place, the effects of construction dust are not considered to be significant.</p> <p>Operational phase effects will primarily be associated with road traffic emissions, traffic from the proposed development has the potential to impact on existing residential receptors in the vicinity of the site. Impacts at existing receptor locations, particularly in relation to properties in close proximity to the A10 and potentially in the AQMAs within Cambridge, will need to be quantified using detailed dispersion modelling.</p> <p>The incorporation of a wide range of low emission and sustainable transport measures to reduce development related traffic generation is likely to be required to ensure the Site complies with current and emerging planning policies (local and national) and relevant regulations. This should not ultimately constrain the development provided appropriate and adequate measures can be identified.</p> <p>These measures will likely include optimisation of existing infrastructure (such as access to Railway Station), provision of active travel corridors and supporting facilities (sustainable transport hubs), and internalisation of travel requirements (i.e. onsite provision of amenities). Additionally, consideration will need to be given to measures to minimise emissions to air both from individual vehicles (such as through provision of Electric Vehicle charging infrastructure) and onsite heating plant (such as heat-pumps instead of gas fired boilers). The location of sensitive land-uses (i.e. schools and residential) and areas likely to experience high levels of human exposure (i.e. shopping streets, outdoor recreation) away from sources of pollution, and incorporation of green infrastructure will all assist with reducing the potential adverse health effects of exposure to air pollution.</p> <p>A Low Emissions Strategy (LES), detailing the package of measures to help mitigate the impacts of development on local air quality, is likely to be required during the planning application stage. The LES may require financial investments in and contributions to the delivery of onsite or offsite low emission transport projects and plans, including strategic monitoring and assessment activities.</p>
4.	<p><b><u>Next Steps</u></b></p> <p>An air quality impact assessment will be required to accompany the planning application for the development. Quantification of development impacts will be required using the ADMS Roads detailed dispersion model in order to further define the acceptability of air quality impacts from road traffic associated with the development. Mitigation, in the form of a Low Emissions Strategy outlining measures to reduce the air quality impacts of development on local air quality, is likely to be required.</p>

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**DOCUMENT ISSUE RECORD**

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