

Our ref: CMD/EZ/LE13606/002

Date: 19th December 2016

Digital ref:

Your ref:

Mr Neil Lewis
Gladman Developments Ltd
Gladman House
Alexandria Way
Congleton
Cheshire
CW12 1LB

Dear Neil,

St Mary's Road, Hayling Island – Air Quality Assessment Methodology

Wardell Armstrong LLP were commissioned to undertake an air quality assessment for St Mary's Road, Hayling Island. This letter outlines the methodology which will be used to undertake an air quality assessment.

The proposed development site is located in the southern part of Hayling Island. To the north, the site is bordered by open land; with Serenity Family Holiday, the Oven Camp Site, the A3023 Manor Road and Havant Road beyond. To the east and south, the site is bordered by existing residential areas; with St Mary's Road and Church Road beyond. To the west, the site is bordered by open land; with existing residential areas and the A3023 Manor Road beyond. The development site currently comprises open land.

The proposals are residential in nature and comprise up to 210 residential dwellings, 0.6ha of land for apartments with care (C2) and associated infrastructure. The site lies within the administrative area of Havant Borough Council (HBC).

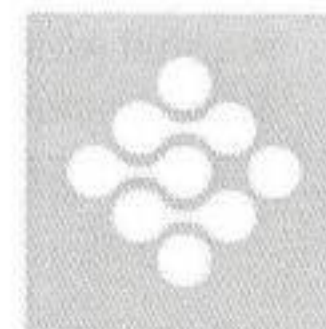


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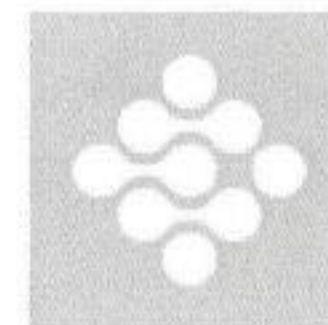
Air Quality Review

A review of the 2015 Air Quality Updating and Screening Assessment report (draft) for HBC has been carried out. There are currently no Air Quality Management Areas (AQMAs) declared within the borough.

Proposed Air Quality Assessment Methodology

Consultation was undertaken, in a series of communications between 6th July and 25th November 2016, with Mr Jonathan Driver, Environmental Control Officer at HBC. An assessment methodology was provided to Mr Driver on 25th November which detailed the following:

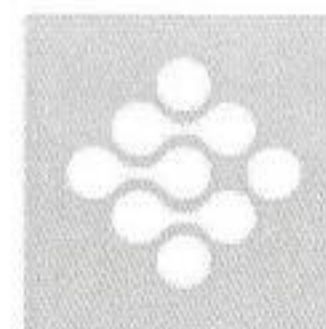
1. A construction phase dust assessment will be undertaken in accordance with the institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction (February 2014)'. This will consider the potential dust soiling, human health and ecological effects at existing sensitive receptor locations during the construction phase of the development (as applicable).
2. Air dispersion modelling, using ADMS-Roads will be undertaken to consider the impact of changing traffic flows, as a result of the proposed development, at existing human sensitive receptor locations. Pollutant concentrations will also be predicted for location considered representative of the proposed residential dwellings at the site. The assessment will consider nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀ and PM_{2.5}) concentrations.
3. Traffic flow information will be provided by the appointed Traffic Consultant for the project. At this stage we are proposing to use traffic data for the following routes, as a minimum. The traffic data will take into consideration committed developments within the local area.
 - A27;
 - A3023;
 - B2149 Park Road;
 - Langstone Road;
 - Havant Road;
 - Church Road;
 - Manor Road ;
 - Tournerbury Lane;
 - Elm Grove;
 - St Mary's Road;



- Station Road;
 - Woodbury Av;
 - Langstone Tech Park Access;
 - Cherrywood Gardens ; and
 - Proposed Site Access Road
4. The following scenarios will be considered within the air quality assessment:
- A verification and base year (2015); and
 - A proposed opening/future year (2021), with and without the development in place
5. We anticipate using meteorological data within the air dispersion modelling. We propose to use data from the Thorney Island Meteorological Recording Station, which is the closest and most similar in terms of distance and altitude.
6. We understand that there are no representative background monitoring locations in the vicinity of the proposed development. Background pollutant concentrations will therefore be obtained from the 2013-based Defra default concentration maps, for the appropriate grid squares. In addition to the air quality assessment, a sensitivity analysis will be undertaken whereby base year backgrounds, will be used for both the baseline year and opening/future year scenarios.
7. It is understood there are four roadside NO₂ diffusion tubes available for 2015 Base Year model verification, where traffic flow information is also available. Therefore, the following four tubes will be used in model verification:

Name and Location of diffusion tubes to be used in model verification	Grid Reference	2015 bias-adjusted monitoring data (µg/m ³)
68 Havant Road	(472202, 102049)	28.7
Position 1: Langstone Road (West)	(471613, 105611)	33.59
Position 12: Xyratex	(471613, 105673)	29.80
Position 20: Bosmere Junior School	(471706, 105933)	26.05

8. Predicted pollutant concentrations will be compared with the current air quality objectives as set out in the Air Quality Standards Regulations 2010. Changes in pollutant concentrations, as a result of the proposed development, will be calculated and compared against the IAQM and Environmental Protection UK guidance document on planning for air quality: 'Land-Use Planning and Development Control: Planning for Air Quality (May 2015)'.



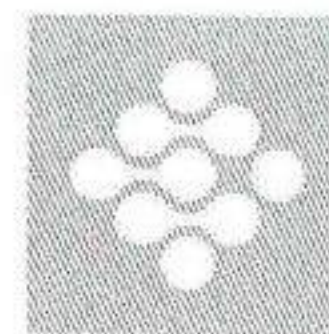
9. We have identified that there is a requirement for an operational phase assessment (focusing on development-generated road traffic emissions) for the Langstone Harbour Site of Special Scientific Interest (SSSI), the Chichester Harbour SSSI, the Chichester and Langstone Harbours Special Protection Area (SPA)/Ramsar Site and Solent Maritime Special Areas of Conservation (SAC).

These sites are all located within 200m of the A3023. To assess the potential impact of road vehicle emissions on the aforementioned designated sites, the following methodology will be applied:

- Air dispersion modelling, using ADMS-Roads, will be undertaken to consider the potential impact of changing traffic flows, as a result of the proposed development, at relevant locations within the Langstone Harbour SSSI, the Chichester Harbour SSSI, the Chichester and Langstone Harbours Ramsar Site /SPA and Solent Maritime SAC;
- The ADMS Roads model will predict airborne concentrations of NO₂ due to road traffic emissions at the specified points. The model will be used to predict annual mean NO₂ concentrations for a 2021 opening/future year scenario, both without and with the proposed development in place. The difference between the 'without development' and 'with development' scenarios will be identified as the effect of the proposed development on concentrations of NO₂;
- Deposition rates of NO₂ will be calculated, using the Environment Agency recommended deposition velocities. Deposition rates of nitrogen per hectare per year (Kg N/ha/year) and deposition rates of nitrogen-derived acid per hectare per year (kEq/ha/year) will be calculated from the modelled NO₂ deposition rates; and
- Modelled deposition rates will be assessed against critical loads (taken from the Air Pollution Information System (APIS) resource) to determine whether emissions to air from the proposed development can be scoped out of having a significant adverse effect at the designated habitat site. This will be determined using the 1% screening criteria in EA guidance (i.e. is the long term PC less than 1% of the long term environmental standard for protected conservation areas?).

The assessment will take into account the following guidance:

- Environment Agency, "Air emissions risk assessment for your environmental permit" August 2016;

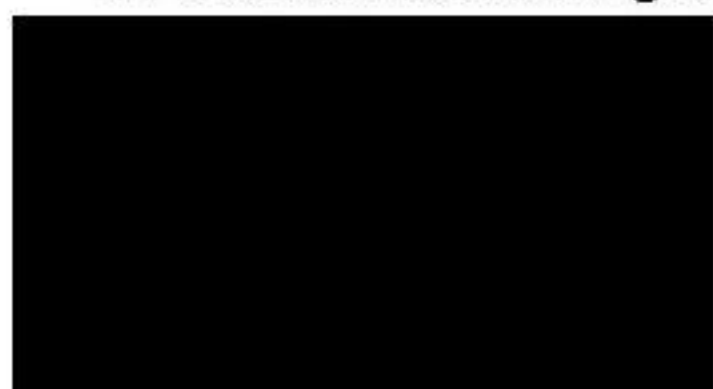


- Environment Agency, AQTAG06 Technical Guidance on detailed modelling approach for an appropriate assessment for emissions to air," November 2013; and
- Conservation Agencies' APIS resource (www.apis.ac.uk).

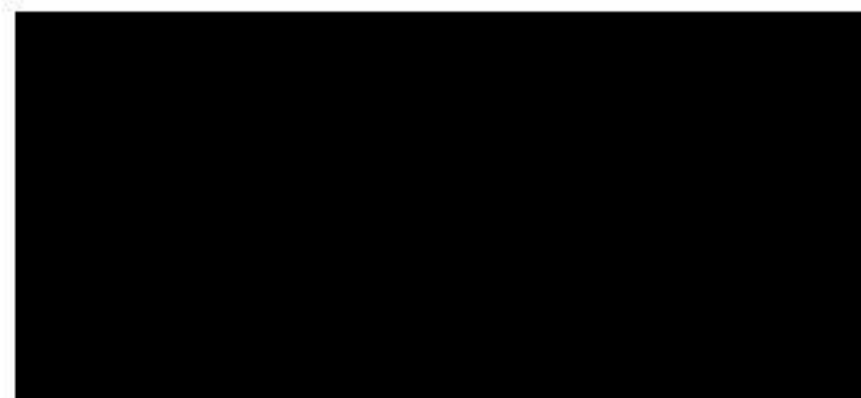
Responses were received from Mr Driver via email between 6th July and 24th November 2016. It is understood that the four aforementioned monitoring locations (HBC ref: 68 Havant Road, Position 1, Position 12 and Position 20) were agreed for model verification, and 2015 monitoring data was provided for use in the model verification.

An air quality assessment, using the methodology outlined above has been commissioned and will be undertaken over the coming weeks.

Yours sincerely
for Wardell Armstrong LLP



ERIN ZHANG
Environmental Scientist



MARK DAWSON
Technical Director

