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Our ref: LE13820/PT/MW/002 *Date*: 6th March 2019
Your ref: 2019-018

Mr Paul Roberts
Gladman Developments Limited
Gladman House
Alexandria Way
Congleton
Cheshire
CW12 1LB

Dear Paul,

2019-018 Cross Road, Deal, Kent – Air Quality Screening Report

By email instruction dated 18th February 2019 from Mr Paul Roberts of Gladman Developments Limited, Wardell Armstrong LLP was commissioned to undertake an air quality screening assessment and prepare a letter report for a proposed residential development at Cross Road, Deal, Kent.

The proposed development site is located to the south west of Deal, in the suburb of Walmer. To the north and east, the site is bound by residential properties off Lydia Road and Sydney Road, respectively. To the south the site is adjacent to Station Road, with open agricultural land beyond. The site is bounded to the west by Cross Road, with open land beyond. Wardell Armstrong have previously undertaken an air quality assessment for Gladman Developments for this site as a larger parcel of land (REF LE13820/001) . The proposed development site is currently open agricultural land.

From the information provided, we understand that the proposals are for residential development comprising up to approximately 100 dwellings and associated infrastructure.

Consultation

Email correspondence was undertaken with Mr Brian Gibson, Senior Environmental Protection Officer at Dover District Council (DDC) on 25th February 2019, with an agreement on the appropriate methodology for the air quality assessment made on 26th February 2019 (see Appendix 1). It is considered that a full air quality assessment, to consider road traffic emissions, is not required in this instance for the following reasons:

- The proposed development does not lie within an existing Air Quality Management Area (AQMA). The nearest AQMA to the site is located approximately 10km to the

south west. Therefore, the proposed development is not located in a known area of concern with regard to poor air quality.

- Background concentrations for the site, obtained from the 2015-based Defra default concentrations maps, indicate that annual mean concentrations within the vicinity of the site are likely to be 9.42 µg/m^3 for nitrogen dioxide (NO_2) and 13.86 µg/m^3 for fine particulate matter (PM_{10}). Both of these concentrations are well below the respective annual mean objectives.
- The proposals are for a maximum of 100 residential dwellings, and therefore it is not considered likely that vehicles travelling to/from the proposed development will have a significant impact at representative existing receptors along nearby roads.
- In accordance with the Institute of Air Quality Management 'Guidance on the Assessment of Dust from Demolition and Construction (June 2016)', it is considered the dust impacts relating to the demolition and construction phase of the development will be not significant with appropriate site mitigation in place.

The above methodology was deemed acceptable, however Mr Gibson highlighted that a robust construction assessment 'which specifically addresses fugitive dust levels for both the initial groundworks and construction phases' should be included in the assessment.

Mr Gibson also requested that Electric Vehicle (EV) charging points are included within the development, as per the Kent and Medway AQ Guidance – Option B Document[1]. This is not considered to be an unreasonable request from the EHO as air quality mitigation measures such as EV charging points are representative of good design principles and best planning practice.

Local Air Quality

The proposed residential development site is situated within the administrative area of DDC. A review of the 2018 Annual Status Report (ASR) for DDC indicates that there are currently no declared Air Quality Management Areas (AQMA) in the vicinity of the proposed development. The nearest AQMA to the site, the A20 AQMA, is located approximately 10km to the south west in Dover. Therefore, the proposed development is not located directly within a known area of concern with regard to poor air quality.

Currently available information indicates that there are no air quality monitoring locations in the vicinity of the proposed development. Therefore, in order to provide more information on background concentrations at the proposed development site, data has been obtained from the 2015-based default concentration maps provided by Defra on their Local Air Quality Management (LAQM) web pages[2]. The background pollutant concentrations are detailed below in Table 1.

[1] http://kentair.org.uk/documents/K&MAQP_Air_Quality_Planning_Guidance_Mitigation_Option_B.pdf

[2] Department for Environment, Food and Rural Affairs, Local Air Quality Management webpages (http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html)

Table 1: Background Air Pollutant Concentrations Obtained from the 2015-Based Defra Default Concentration Maps		
Proposed Development Site Coordinates	**2019 Pollutant Concentrations (µg/m^3)**	
	Nitrogen Dioxide (NO_2)	**Fine Particulate Matter (PM_{10})**
636219, 150449	9.42	13.96

The annual mean air quality objective for both NO_2 and PM_{10} concentrations is 40µg/m^3. The background concentrations for the proposed development site, as detailed in Table 1, are well below these objectives.

Construction Phase Impacts

A review of relevant guidance has been undertaken to consider the potential for significant effects during the construction phase of the proposed development. The review has taken into account the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction' (June 2016).

The closest sensitive human receptors to where construction phase activities will take place are residential in nature and are detailed in Table 2.

Table 2: Existing Sensitive Receptors Considered in the Construction Phase Assessment		
Receptor	**Direction from the Site**	**Approximate Distance from the Site Boundary (m)**
Existing residential properties off Lydia Road	North	Immediately adjacent at closest point
Existing residential properties off Sydney Road	East	Immediately adjacent at closest point

There are no ecological receptors, or potentially dust sensitive statutory designated habitat sites, within 50m of the site and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s). Ecological effects do not therefore need to be considered within this assessment.

In accordance with the IAQM guidance, the main activities to be considered during the construction phase of the proposed development are earthworks, construction and trackout. There are no demolition activities associated with the proposed development and so demolition is not considered further within this assessment.

Table 3 details the results of the construction phase assessment for human receptors.

Table 3: Construction Phase Dust Assessment for Human Receptors				
	Activity			
	Demolition	Earthworks	Construction	Trackout
Step 2A				
Dust Emission Magnitude	N/A	Large[a]	Medium[b]	Medium[c]
Step 2B				
Sensitivity of Closest Receptors	N/A	High	High	High
Sensitivity of Area to Dust Soiling Effects	N/A	Medium	Medium	Medium
Sensitivity of Area to Human Health Effects	N/A	Low[d]	Low[d]	Low[d]
Step 2C				
Dust Risk: Dust Soiling	N/A	Medium Risk	Medium Risk	Low Risk
Dust Risk: Human Health	N/A	Low Risk	Low Risk	Low Risk

a. Total site area estimated to be more than 10,000m²
b. Total building volume estimated to be between 25,000 to 100,000m³, with potentially dusty construction materials
c. Number of construction phase vehicles estimated to be between 10- 50 movements per day
d. Background annual mean PM_{10} concentration is taken from the LAQM Defra default concentration maps, for the appropriate grid square for 2019

During the construction phase, the implementation of effective mitigation measures will substantially reduce the potential for nuisance dust and particulate matter to be generated.

Step 2C of the assessment has identified that the risk of dust soiling and human health effects is not negligible for any of the activities and therefore site-specific mitigation will need to be implemented to ensure dust effects from these activities will be not significant.

Recommendations for Site-Specific Mitigation

Specific mitigation relating to dust control may be in the form of construction best practices or could include a dust management plan. Recommendations for mitigation within the IAQM guidance include:

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise as soon as practicable;
- Protection of surfaces and exposed material from winds until disturbed areas are sealed and stable;
- Dampening down of exposed stored materials, which will be stored as far from sensitive receptors as possible;
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;
- Avoidance of activities that generate large amounts of dust during windy conditions;

- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving site are covered to prevent escape of materials during transport;
- Implement a wheel washing system.

All dust and air quality complaints should be recorded, and appropriate measures be taken to identify causes and reduce emissions in a timely manner. Exceptional incidents which cause dust and/or emissions, and the action taken to resolve the situation, should be recorded in a log book and made available to DDC on request.

It is recognised that the final design solutions will be developed with the input of the Contractor to maximise construction efficiencies, to use modern construction techniques and sustainable materials and to incorporate the particular skills and experience offered by the appointed contractor.

In accordance with the guidance, it is considered that there will be a 'not significant' residual effect associated with dust and fine particulate matter associated with activities during the construction phase, with appropriate site-specific mitigation measures in place.

Operational Phase Impacts

Existing Sensitive Receptors

The proposals are for a residential development, comprising a maximum of 100 residential dwellings. Background pollutant concentrations at the proposed development site (as detailed in Table 1) are predicted to be well below the relevant annual mean air quality objectives.

Guidance prepared by Environmental Protection UK (EPUK) and the IAQM[3] provides criteria for when a detailed air quality assessment may be required. The relevant criteria for a residential development include:

- A change in Light Duty Vehicles (LDVs) of more than 500 AADT (or 100 AADT within/adjacent to an AQMA);
- A change in Heavy Duty Vehicles (HDVs) of more than 100 AADT (or 25 AADT within/adjacent to an AQMA);
- The realignment of existing roads near to receptors, with a change of more than 5m when the road is within an AQMA; and
- The introduction of a new junction, or removal of an existing junction, leading to a significant change in vehicle acceleration/deceleration (e.g. through the introduction of traffic lights or a roundabout) near to receptors.

[3] Moorcroft and Barrowcliffe *et al*, Land-use Planning and Development Control: Planning for Air Quality, Version 1.2, January 2017

From information provided by Croft Transport Planning, the appointed transport consultant for the scheme, we understand that the estimated Annual Average Daily Traffic (AADT) for the proposed development is 474 two-way trips. This fall below the criterion required to undertake a detailed assessment.

With regard to potentially sensitive designated sites, it has been identified, using the DEFRA MAGIC Map tool, that the proposed development site does not lie within or near to any designated sites.

Therefore, in accordance with the EPUK/IAQM guidance, the impact can be described as 'not significant'.

Proposed Sensitive Receptors

We have also reviewed the current land uses surrounding the proposed development site. The site is surrounded mainly by open land to the south and west, with existing residential dwellings to the north and east. Therefore, it is considered that there are no significant air quality, dust or odour impacts associated with current surrounding land uses.

Summary

A review has been undertaken, in accordance with relevant guidance, to consider the potential for air quality impacts during the construction and operational phases of the proposed development. This review suggests that any effects should not be significant.

It is therefore considered not necessary to undertake a full air quality assessment at outline planning application stage. However, to mitigate air quality impacts during the construction phase, it is recommended that appropriate site-specific mitigation measures, such as those mentioned earlier in this report, are utilised.

Furthermore, to mitigate air quality impacts during the operational phase of the development, it is recommended that good design principles and best planning practice, including EV charging provision, should be incorporated in to the proposed application.

Yours sincerely
for Wardell Armstrong LLP

PAUL THRELFALL
Environmental Scientist (Air Quality)
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MALCOLM WALTON
Technical Director
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Appendix 1:

Email from Brian Gibson, Senior Environmental Protection Officer at DDC, on 26th February 2019

Threlfall, Paul

From: Brian Gibson <Brian.Gibson@DOVER.GOV.UK>
Sent: 26 February 2019 10:13
To: Threlfall, Paul
Subject: RE: Air Quality Screening Methodology for a proposed development in Deal, Kent

Dear Paul,

I have considered the screening information provided in your email and can concur with your conclusions that a detailed air quality assessment is not required for this development. We will however require a robust construction management plan which specifically addresses fugitive dust levels for both the initial groundworks and construction phases. EH will also be requesting that Electric Vehicle recharging points are included within the development as per guidance in the Kent & Medway AQ Guidance Option B.

Regards

Brian Gibson
Senior Environmental Protection Officer
Dover District Council
Council Offices, White Cliffs Business Park, Whitfield, Dover CT16 3PJ
Tel: 01304 872428 (Dover Council call centre)

Email:envhealth@dover.gov.uk
Web: dover.gov.uk

From: Threlfall, Paul [mailto:pthrelfall@wardell-armstrong.com]
Sent: 25 February 2019 15:55
To: Brian Gibson
Cc: DDC CustomerServices
Subject: Air Quality Screening Methodology for a proposed development in Deal, Kent

Dear Brian,

Please can you forward this email to the Environmental Health Department, or to a specific person(s) who deal with Air Quality Matters.

Wardell Armstrong LLP has recently been instructed to undertake an Air Quality Assessment (AQA) for a proposed residential development at a site at Cross Road, Deal, Kent. From the information provided, it is understood that the proposals comprise the construction of a maximum of 100 dwellings with associated infrastructure. The approximate site grid reference is 636212, 150422.