

Air Quality - Response to Havant Borough Council Comments

Former Landfill Site, Brockhampton West, Harts Farm Way, Havant

Presented to Havant Borough Council c/o Clowes Developments (UK) Ltd

Issued: 22nd April 2021

Delta-Simons Project Number: 19-2099.03

Contacts	Position	Signature	Contact Number	Email
Siobhan Goodman	Consultant		0797 418 7188	Siobhan.Goodman@deltasimons.com
Gabor Antony	Unit Manager		0797 418 7473	Gabor.Antony@deltasimons.com

1. Introduction

Delta-Simons was instructed by Clowes Developments (UK) Ltd (the 'Client') to undertake an Air Quality Assessment (the 'Report') in support of a planning application for the development of new employment units for flexible use across use classes E (light industrial), B2 and B8 with ancillary offices, car parking, service yards, drainage works, landscaping and associated works to prepare the site for development (the 'Proposed Development') at the Former Landfill Site, Brockhampton West, Harts Farm Way, Havant (the 'Site').

The Air Quality Assessment Report (AQAR) (Delta-Simons ref: 19-2099.03; dated 10th February 2021) was submitted to Havant Borough Council (HBC) in February 2021 with the planning application (reference: APP/21/00189) for 'the development of new employment units to provide up to 29,000 sqm (gross internal area) for flexible use across use classes E (light industrial), B2 and B8 with ancillary offices, car parking, service yards, drainage works, landscaping and associated works'. The assessment concluded:

*'The Proposed Development is expected to result in an overall **negligible** impact associated with the operational phase traffic on nearby receptors and based on the extent of population exposure to the predicted impacts the residual effects are considered to be **not significant**'*

Subsequent to the submission of the application, comments were received from the Environmental Health team at HBC on 19th April 2021, requesting clarification on three distinct aspects of the road traffic emissions dispersion modelling undertaken as part of the AQAR.

The remainder of this note addresses these queries.

2. HBC Comments and Delta-Simons Responses

Comment 1

'The assessment appears to correspond broadly to the 'B2' development scenario, accounting for a development transportation demand of 1070 total Vehicles AADT and 8.6% development traffic as HDV's (against a transport assessment B2 scenario of 1186 total vehicles AADT & 8.5% HDV). It appears that no other scenario has been modelled.

The transport assessment indicates that the B8 development scenario 609 total vehicles AADT & 33.9% HDV.

Conservative parameters have been selected in respect of vehicle emissions factors, but it is not clear that the B2 scenario represents the conceptual 'emissions worst case' scenario, and as only the B2 scenario has been modelled / presented, the difference in impact between these two scenario's is not clear. It should be noted that the 'emissions-' and 'highways-' worst-case scenario's may be different, and that the baseline transport demand estimates have been broadly agreed by the Highways Authority, but remain subject to some specific objections, in particular in relation to the demands of ancillary office floorspace.'

Response 1

Following the comments received from HBC, an updated assessment was undertaken using the B8 development scenario traffic flow predictions, provided by the Project Transport Consultant (PTC). Following correspondence with the PTC it has been identified that, the maximum total trip generation of the scheme would be 455, contrary to the comment received, and therefore this figure has been utilised within the updated modelling assessment. **Table 1** below shows a comparison between the original B2 development scenario traffic and the updated B8 development scenario traffic.

Table 1 - Development Scenarios Traffic Comparison

B2 Development Scenario		B8 Development Scenario	
AADT	HDV%	AADT	HDV%
1070	8.50	455	33.85

A review of the dataset concluded that there is an increase in HDV% between the two scenarios from 8.50% to 33.85% in the B2 and B8 scenarios respectively. However, the decrease in overall AADT, a difference of 615 movements between the two scenarios, resulted in the predicted overall emissions to be lower in the B8 compared to the B2 development scenario, despite the change in traffic composition. The difference between impacts at identified sensitive receptor locations were, therefore nominal when comparing the two development scenarios, but predicted to be lower in the B8 scenario.

Concentrations of NO₂, PM₁₀ and PM_{2.5} were therefore, predicted to remain below the relevant air quality objectives at all sensitive receptor locations in both development scenarios. Subsequently, based on the extent of predicted exposure to the impacts on pollutant concentrations and the guidance provided by the IAQM, the overall effect of the Proposed Development is considered to be **not significant** in both the B2 and B8 development scenarios.

Comment 2

'In terms of the Ecological Impact, Predicted Environmental Concentrations (PEC's) for Nitrogen Oxides (NO_x) exceed environmental quality standards (EQS's) in both 'do minimum' and 'do something' scenarios (Table G4 of the report). The assessment is reliant upon common screening benchmarks derived from the environmental permitting regime to conclude that the impact of development is 'not significant', and that 'no further assessment' is necessary.

Even if this assessment is accepted at face value, it should be nevertheless be recognised that the development will have a material net-negative impact at a SSSI site where applicable air quality standards are already exceeded.

The industry guidance quoted allows this kind of 'managed-rate' deterioration, however emerging local policy (E23 c.) seeks a 'hold the line' approach, aiming to mitigate deterioration of local air quality, especially where there are existing or expected breaches of EQS's. In this way, the local policy departs from commonly accepted industry guidance, and it is expected that a proportionate response be made within the design & specification of schemes coming forward. The assessment recognises policy E23, but does not present a recommended design response.

It is unlikely that this divergence could amount to an 'in principle' objection to an outline consent, but I would highlight that it would be expected that the reserved matters applications will address policy E23 (a. & c.). [- notwithstanding highways objections in respect of transport demand & the assessment of network baseline traffic flow]*

Response 2

Whilst Policy E23, contained within the emerging Havant Borough Local Plan, was included in the assessment local planning policy section, the document has not been adopted and therefore, could not be assessed against. Appendix G of the Transport Assessment for the Site, which has been provided following submission of the AQAR, includes a Workplace Travel Plan (WTP). The following measures within the WTP aim to provide a recommended design response/operational phase mitigation and should be read in line with Section 6.2.1 of the AQAR:

- ▲ A Travel Plan Co-Ordinator (TPC) will be appointed whose role will be to encourage and foster a sustainable approach to the development where possible. The TPC will provide personalised travel planning advice to staff should demand be identified, as well as providing information packs to all new staff.
- ▲ The information pack will contain information regarding: walking and cycling routes; bus and train station locations and timetable information; journey planner tools; car sharing opportunities; contact details for the TPC; and a brief overview of the WTP.
- ▲ The TPC will be responsible for promoting the benefits of walking to staff of the Site as well as providing information regarding local walking routes within the information packs.
- ▲ Long-stay and short-stay cycle parking will be provided in accordance with the HBC Parking Supplementary Planning Document. As such, a total of 88 cycle parking spaces will be provided. The TPC will also investigate the opportunity for a cycle to work scheme.
- ▲ Up-to-date timetables and journey planning tools, including route information and service frequencies, will be provided within the staff information packs.
- ▲ Travel awareness measures should play a key part of the WTP, for example:
 - ▲ Car-free days to be promoted;
 - ▲ Promote the use of a car sharing database such as Liftshare;
 - ▲ Personalised travel information if the demand is identified;
 - ▲ Promote participation in National Bike Week events; and
 - ▲ Promoting the health and cost benefits of using sustainable transport.

Comment 3

Notwithstanding the above comments in respect of NO_x, it would appear that the figures presented in Table G6 (Acid deposition) may be inconsistent with the conclusions of the report.

Table G6 appears to identify PEC's of 228.4 – 228.7 (as keq/ha/yr), against a critical load (table 4) of 4.558 (as CLMaxN, keq/ha/yr). This table also expresses the PEC as a proportion of the respective critical load at levels between 21.9-22%. As they are presented, I don't understand these values. Taken at face value, it would appear that the reported PEC is 5000% the critical load, and the development contribution 6.6% of the Critical Load.

At this stage it is assumed that there is a drafting error within table G6 which is causing confusion. This should ideally be resolved, as a 6.6% development contribution is contrary to the statement being relied upon at 5.3.27 of the report (the development contribution below the screening level of >+1% long term environmental standard, represented by the critical load). If accurate, this would mean that the development impact at a sensitive habitat is of significant magnitude, at a location where extant deposition rates exceed EQS's by more than an order of magnitude. In such a scenario, I would expect a detailed consideration of the significance of these results by an ecologist.

Response 3

It is acknowledged that the predicted annual mean acid deposition rates at relevant receptor locations in Table G6 of the AQAR were not in line with the findings of the assessment and not been accurately presented, as such, the relevant values have been updated to reflect this amendment and are presented below in **Table 2**.

Table 2 - Predicted Annual Mean Acid Deposition Rates (B2 Development Scenario)

Receptor	Designation	Predicted Annual Mean Acid Deposition Rate (keq/ha/yr)		Proportion of Critical Loads (%) CLMinN	
		PC	PEC	PC	PEC
ER1	Langstone Harbour SSSI	0.001	1.0	0.3	228.6
ER2	Langstone Harbour SSSI	0.002	1.0	0.3	228.7
ER3	Langstone Harbour SSSI	0.002	1.0	0.4	228.7
ER4	Langstone Harbour SSSI	0.001	1.0	0.2	228.5
ER5	Langstone Harbour SSSI	<0.001	1.0	0.1	228.4
ER6	Langstone Harbour SSSI	<0.001	1.0	0.1	228.4
ER7	Langstone Harbour SSSI	0.001	1.0	0.2	228.5
ER8	Langstone Harbour SSSI	0.001	1.0	0.2	228.5

As shown in **Table 2**, the predicted maximum annual mean acid deposition rates are below the screening criteria of 1% for SSSIs, at all ecological receptors in the B2 development scenario, and as such, no further assessment is required. It is considered that the operation of the Proposed Development would result in a **not significant** effect on the integrity of the SSSI, in accordance with the adopted assessment criteria.

For completeness, the ecological assessment results for the B8 development scenario are presented below.

Nitrogen Oxides

Predicted annual and 24-hour mean NO_x concentrations are summarised in **Table 3** (corresponding with Table G4 of the AQAR).

Table 3 - Predicted NO_x Concentrations (B8 Development Scenario)

Receptor	Designation	Predicted Annual Mean NO _x				Predicted 24hr Mean NO _x			
		Concentration (µg/m ³)		Proportion of EQS (%)		Concentration (µg/m ³)		Proportion of EQS (%)	
		PC	PEC	PC	PEC	PC	PEC	PC	PEC
ER1	Langstone Harbour SSSI	0.08	45.8	0.27	152.6	0.56	91.9	0.75	122.6
ER2	Langstone Harbour SSSI	0.11	45.8	0.36	152.7	0.69	92.1	0.91	122.8
ER3	Langstone Harbour SSSI	0.09	45.8	0.31	152.6	0.39	91.8	0.52	122.4
ER4	Langstone Harbour SSSI	0.05	45.7	0.18	152.5	0.18	91.6	0.24	122.1
ER5	Langstone Harbour SSSI	0.02	45.7	0.05	152.4	0.10	91.5	0.14	122.0
ER6	Langstone Harbour SSSI	0.01	45.7	0.04	152.3	0.03	91.4	0.04	121.9
ER7	Langstone Harbour SSSI	0.03	45.7	0.09	152.4	0.07	91.4	0.09	121.9
ER8	Langstone Harbour SSSI	0.03	45.7	0.08	152.4	0.08	91.5	0.11	121.9

As presented in **Table 3**, the predicted annual mean NO_x PC for the Langstone Harbour SSSI is below the screening criteria of 1% for SSSIs, at all ecological receptors and as such, no further assessment is required. The resulting effects are therefore considered to be **not significant**, in accordance with the adopted assessment criteria.

The 24-hour mean NO_x PCs are also below the relevant assessment criteria of 10% of the short-term environmental standard, resulting in a **not significant** effect and therefore no further assessment is required.

Annual Mean Nitrogen Deposition

Predicted annual mean nitrogen deposition rates are summarised in **Table 4** (corresponding with Table G5 of the AQAR).

Table 4 - Predicted Annual Mean Nitrogen Deposition Rates (B8 Development Scenario)

Receptor	Designation	Predicted Annual Mean Nitrogen Deposition Rate (kgN/ha/yr)		Proportion of the			
				Lower Critical Load		Higher Critical Load	
		PC	PEC	PC	PEC	PC	PEC
ER1	Langstone Harbour SSSI	0.012	14.1	0.079	94.1	0.039	47.0
ER2	Langstone Harbour SSSI	0.016	14.1	0.105	94.1	0.052	47.1
ER3	Langstone Harbour SSSI	0.013	14.1	0.090	94.1	0.045	47.0
ER4	Langstone Harbour SSSI	0.008	14.1	0.051	94.1	0.025	47.0
ER5	Langstone Harbour SSSI	0.002	14.1	0.015	94.0	0.008	47.0
ER6	Langstone Harbour SSSI	0.002	14.1	0.011	94.0	0.006	47.0
ER7	Langstone Harbour SSSI	0.004	14.1	0.025	94.0	0.012	47.0
ER8	Langstone Harbour SSSI	0.004	14.1	0.024	94.0	0.012	47.0

As shown in **Table 4** the predicted maximum annual mean nutrient nitrogen deposition rates are below the screening criteria of 1% for SSSIs, at all ecological receptors and as such, no further assessment is required. The resulting effects are therefore considered to be **not significant**, in accordance with the adopted assessment criteria.

Annual Mean Acid Deposition

Predicted annual mean acid deposition rates at relevant receptor locations are summarised in **Table 5** (corresponding with Table G6 in the AQAR).

Table 5 - Predicted Annual Mean Acid Deposition Rates (B8 Development Scenario)

Receptor	Designation	Predicted Annual Mean Acid Deposition Rate (keq/ha/yr)		Proportion of Critical Loads (%) CLMinN	
		PC	PEC	PC	PEC
ER1	Langstone Harbour SSSI	0.001	1.0	0.2	228.5
ER2	Langstone Harbour SSSI	0.001	1.0	0.3	228.6
ER3	Langstone Harbour SSSI	0.001	1.0	0.2	228.5
ER4	Langstone Harbour SSSI	0.001	1.0	0.1	228.4
ER5	Langstone Harbour SSSI	<0.001	1.0	<0.1	228.3
ER6	Langstone Harbour SSSI	<0.001	1.0	<0.1	228.3
ER7	Langstone Harbour SSSI	<0.001	1.0	0.1	228.4
ER8	Langstone Harbour SSSI	<0.001	1.0	0.1	228.4

As shown in **Table 5**, the predicted maximum annual mean acid deposition rates are below the screening criteria of 1% for SSSIs, at all ecological receptors and as such, no further assessment is required. As such, it is considered, that the operation of the Proposed Development would result in a **not significant** effect on the integrity of the SSSI, in accordance with the adopted assessment criteria.

Summary

The results from both the B2 and B8 scenarios indicated that emissions associated with additional traffic generated by the Proposed Development would not significantly affect existing conditions at ecological designation within the assessment extents, in accordance with the adopted assessment criteria.

Based on the assessment significance criteria, the residual effects of the Proposed Development are considered to be **not significant** for all pollutants assessed.

3. Summary

The AQAR (dated February 2021) concluded that the residual effect of the Proposed Development on air quality is judged to be **not significant**. Additional modelling of the B8 development scenario and associated traffic data has indicated that the AQOs for the assessed pollutants would not be exceeded at the selected sensitive receptors.

Following an amendment to Table G6 of the AQAR (**Table 2**), NO_x levels and nitrogen and acid deposition rates at the relevant ecological sites were predicted and it was confirmed that emissions associated with additional traffic generated by the Proposed Development in the B2 development scenario would not significantly affect existing conditions at ecological designations within the assessment extents.

Furthermore, NO_x levels and nitrogen and acid deposition rates at the relevant ecological sites were predicted for the B8 development scenario. This indicated that emissions associated with additional traffic generated by the Proposed Development in the B8 development scenario would not significantly affect existing conditions at ecological designations within the assessment extents.

A number of mitigation measures have been referenced in this Technical Note which are included in the WTP in response to the requirements of Policy E23 in the emerging Havant Borough Local Plan.

Based on the assessment significance criteria, the residual effects of the Proposed Development are considered to be **not significant** for all pollutants assessed, and therefore, in accordance with the assessment criteria, additional mitigation is not required.

Furthermore, it is considered that the Proposed Development complies with national and local policy for air quality.

Based on the assessment results, air quality is not considered a constraint to planning consent.

Appendix A - Limitations

Limitations

The recommendations contained in this Report represent Delta-Simons professional opinions, based upon the information listed in the Report, exercising the duty of care required of an experienced Environmental Consultant. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client and others. Delta-Simons conclusions, opinions and recommendations have been determined using this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

This Report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.