

Air Quality - Response to Havant Borough Council Environmental Health Additional Comments

32 New Lane, Havant, Hampshire

Presented to Havant Borough Council c/o Havant Property Investment LLP

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Delta-Simons Project Number: 20-1275.03

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1. Introduction

Delta-Simons was instructed by Havant Property Investment LLP (the 'Client') to undertake an Air Quality Assessment (the 'DS Report') in support of a planning application for the proposed B8 Distribution Facility (the 'Proposed Development') at 32 New Lane, Havant, Hampshire (the 'Site').

A planning application (reference: APP/21/00200) was submitted to Havant Borough Council (HBC) in February 2021 for 'Demolition of existing buildings and redevelopment of site comprising erection of distribution warehouse (class B8) with ancillary offices and related facilities, vehicle storage deck, new access, landscaping and associated infrastructure.' This was accompanied by the DS Report (Delta-Simons ref: 20-1275.01; dated 26th January 2021).

The report concluded:

*'The Proposed Development is expected to result in a **negligible** impact associated with the operational phase traffic on nearby receptors and the residual effects are considered to be **not significant**. As such, 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.'

Subsequent to the submission of the DS Report, comments were received from the HBC Environmental Control Officer (ECO) on 27th April 2021, requesting further clarification of aspects of the road traffic emissions dispersion modelling detailed within the DS Report. These were addressed on 2nd July 2021 and for completeness are presented again in **Appendix B**.

Additional comments were issued by HBC on 28th July and 16th August 2021 (reference: CONS/21/02526). The remainder of this note addresses these comments.

2. HBC Additional Comments and Delta-Simons Responses

Comment 1 (28th July 2021)

'Air Quality - Impact of Development Transport Demand (Delta Simons Response, Supplementary Transport Assessment)

The key concluding comments following review of the Delta Simons Air Quality Assessment Report Ref: 20-1275.01 iss.2 (April 2021) are reproduced below;

"It would seem to me to be irrational to accept the conclusions of an air quality assessment which is based upon a baseline scenario which is poorly justified, and a development impact scenario which has not been agreed to be reasonable...In the event that the justification for the baseline scenario cannot be agreed, or that the Highways Authority will only agree a development impact scenario which differs significantly from that accounted for within the air quality report, it may be necessary to update the air quality assessment. Otherwise, following receipt of those assurances it may be possible to accept the report."

Delta Simons Response to [EH] 'Comment 3' addresses the baseline scenario, and 'Comment 4' the development impact scenario. The response to Comment 3 confirms the source of traffic flow figures to be a WYG Air Quality Assessment undertaken for another development (APP/18/00244). Figures appear to have been taken from this source in preference to available DfT figures, and in general, the figures used are conservative relative to the DfT values (available for Petersfield Rd, New Road, New Lane)

The authors refer to both conservative traffic flows & conservative emissions assumptions, and point out that the verification correlation was close to real-world monitoring values. I am not sure I understand the latter comment; my understanding was that the ratio referred to followed the application of a correction factor that was required to adjust for under-prediction occurring despite the conservative values adopted.

Response 1

It is agreed that the traffic flows used, were in general conservative when compared to the DfT values and were considered to be preferable to contemporary traffic counts being undertaken during the prevailing unusual conditions resulting from the recent travel restrictions.

As stated in the 2nd July Technical Note (JTN), 'a good correlation between monitored and modelled datasets at the verification locations' was achieved as evidenced by the low RMSE. This was not intended to suggest that the modelled and the monitored pollutant concentrations corresponded closely (as then an adjustment factor would not need to be applied), but that the under-prediction of the model was systematic and consistent and therefore, that the application of a single adjustment factor to all of the modelled road pollutant contributions was appropriate in this instance.

Comment 2 (28th July 2021)

'I would stand by the comments regarding the 'crudeness' of baseline figures. By 'crude', I am referring to identical AADT flow values being used for multiple road links (e.g. New Lane/Eastern Road/ Leigh Road/Elmleigh Road/Crossland Drive; or Park Road North/Petersfield Road), which is unlikely to reflect real-world conditions. This is not necessarily a reason to reject the report in & of itself, however it is notable that two of the roads affected by the uncertainty in traffic flow figures are adjacent to the verification points used, and that the greatest degree of under-prediction of road contribution NO_x is at the monitoring position adjacent to the sensitive receptor I identified in my prior comments that was not considered in the report (see 'response to Comment 5, below).'

Response 2

Whilst greater definition of base traffic flows would normally be desirable, the changes to pollutant concentrations throughout the modelled assessment extents were sufficiently small to confirm that no significant impacts would be anticipated throughout the assessment extents. Whilst it is acknowledged that the greatest degree of under-prediction within the Model Verification study was at diffusion tube DT28 (as indicated in Table E4 of the DS Report), it is also noted that the recorded 2019 annual mean nitrogen dioxide (NO₂) concentration at this location was 33.7µg/m³.

In accordance with Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance, in this instance a change of 6% or more of the air quality objective for NO₂ as a result of the development-generated traffic flows would be required in order to be considered as significant effect (i.e. a moderate adverse impact). However, the greatest increase throughout the assessment extents is predicted to be 1% in annual mean NO₂ concentrations, even though conservative model inputs (2019 emissions factors and background concentrations) were used. As such, a significant effect would not be anticipated at this location, or elsewhere within the study area.

Comment 3 (28th July 2021)

The response to Comment 4 serves to demonstrate the 'fluidity' of estimates of transport demand which I have previously referred to, highlighting that the most recent demand estimates (presented in the supplementary Transport Assessment) amount to a net increase in transport demand from the site of reduced magnitude to that included within the Delta Simons Air Quality report. At the time of writing, the Highways Authority was understood to remain unsatisfied with the estimates of net change relative to the extant site (in it's wound-down state, i.e. the real world impact), and I had for this reason intended to reiterate comments made previously. However, the applicant has today forwarded further comments from the Highway Authority, which I have now reviewed. This response is amended to reflect those comments.

It is understood that the Highways Agency has now agreed a degree of 'netting' of traffic for the purpose of junction capacity modelling. Whilst it is implicit from the Highways Agency response that it has agreed figures for 'traffic net-change', the net change in AADT transport demand associated with the site is not specified within the consultation response, and is not specified in either the Supplementary- or Addendum- Transport Assessment.

The purpose of the air quality assessment is to estimate the net change in air quality as a result of the development – the 'net change in transport demand associated with the development land' must be known / agreed to be reasonable. It appears that the gross demand of ~/<2500 AADT is agreed, however I remain unclear as to whether the final agreed net change estimate is significantly greater than the value assumed within the Delta Simons Air Quality Report (or not).

The Delta Simons response to EH Comment 4 is noted (rather than disputed), and is considered to form the context within which the 'transport net change' values ultimately agreed with the Highway Authority will be considered in terms of the associated transport emissions.'

Response 3

The Project Transport Consultant (PTC, Vectos) has provided the following response:

'The Highways Agency no longer exists and it is Highways England that is responsible for trunk roads. Highways England have not commented on the planning application. HCC [(Hampshire County Council)] as the local highway authority has now agreed the traffic generation of the proposed redevelopment and how this should be used in any assessments. The traffic generation is not fluid and has been refined through a number of steps following discussions with HCC. These discussions have now been completed and the traffic generation and distribution for use in assessing the planning application is agreed.'

The net trip generation of the Proposed Development, as agreed with HCC, remains 466 24-hour Annual Average Daily Traffic (AADT), as detailed in Response 4 of the JTN. Furthermore, it is noted that the development is forecast to lead to a net reduction in HDV flows of 99AADT. This was not taken into account in the DS Report, which therefore, afforded additional robustness to the assessment.

The final distribution, as agreed with HCC, is amended slightly from that presented in the JTN, however, the development generated traffic flow on each road link is still expected to be lower than those included in the dispersion model for the DS report. For completeness and to allow comparability, the final net development flows are presented in the following table alongside those used for the dispersion model.

Road	Air Quality Assessment Modelled Scenario	HCC Approved Flow	Comparison of Modelled vs FINAL Approved Predicted Flow (AADT)
	AADT increase due to development	AADT increase due to development	
New Lane North of Site	216	112	-104
Crosslands Drive	383	350	-33
New Lane South	216	5	-211

In order to represent a robust assessment approach, as indicated above, the Dispersion Modelling Assessment undertaken as part of Air Quality Assessment considered that there would be 216 AADT on New Lane both north and south of the Site. This was a robust assumption made for the purposes of the assessment which would not occur in reality as the traffic would not be able to travel both ways on New Lane. Reference should be made to **Figure 1** for a Layout Plan of Modelled Road Links and Associated Traffic Flows.

The table in **Appendix 1** that formed part of the previous response gives the details of traffic included on a number of links around the Site. This includes the above robust assumption for New Lane. It must be taken into account that traffic using Crosslands Drive flows onto both Petersfield Road and Park Road. This means that traffic associated with the Site is present on more than one link as it moves through the highway network around the Site and therefore, a cumulative sum for modelled traffic flows cannot be undertaken using this table as it will involve double counting.

The predicted traffic flows generated by the Proposed Development, as agreed with HCC, are lower on all road links (as per the last column of the above table) resulting in a robust assessment approach and, therefore the impacts on pollutant concentrations would be also lower than those presented in the DS Report. As such, the impact of the Proposed Development on concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) would remain **negligible**, with the resulting effect considered to be **not significant** accordingly.

Comment 4 (28th July 2021)

'The Air Quality Response document also addresses Environmental Health's comment that it considers the residents of Cardinal House to be the most sensitive human receptors in air quality terms – as 57% of development traffic will be carried by the Park Road North>Park Road South link.

Delta Simons seeks to dismiss this concern by asserting that the greatest proportional change (in air quality, associated with development traffic emissions-) will be in the immediate vicinity of the site where the impact of it's transport demand will be most concentrated. I would however highlight that 'significance' of a material change in Air Quality at the receptor is proportional to both the existing ambient concentration and to the distance between the receptor and the carriageway kerbside (pollutant source). Cardinal house is in a location with high baseline ambient concentrations, especially at the junction with Elm Lane, and the receptor is within 5m of the kerbside. In this sense, it is more sensitive to the same degree of change than would be a receptor with a lower extant ambient air quality, and where the receptor is set back from the carriageway (as is the case in the vicinity of the development). For these reasons, I still consider the residents of Cardinal House to be the most sensitive receptors to net change in local levels of traffic derived air pollution.

In light of the above, I do not feel able at this stage to recommend approval of the air quality report – this remains to a significant extent depend upon the outcome of discussions with the Highway Authority in respect of the view of net change that balances the need to acknowledge a theoretical consented transport demand, and the real-world change relative to the actual existing site use. In the first instance, clarity on the transport net change scenario agreed to be representative of the site (as AADT values) should be sought in order to frame consideration of the Air Quality assessment.'

Response 4

It is accepted that significance of impact is a function of both the change in pollutant concentration and the existing ambient pollutant concentration. However, it is also noted that the highest roadside annual mean NO₂ concentration recorded between 2016 and 2019 throughout the Borough was 38.5µg/m³ (at DT1(B), in 2016, in Langstone, outside of Havant). If the maximum predicted increase of 1% in NO₂ concentrations associated with the Proposed Development, as detailed in the DS Report, were experienced at such a location, then the impact would be considered to be slight adverse, which is, in accordance with the IAQM guidance would still be classed as a **not significant** effect.

In addition to the robust emissions factors, background concentrations and traffic data (as detailed in Response 3) used in the assessment, as set out in HCC's response to the Supplementary Transport Assessment, there is an agreed approach to traffic generation and the traffic distribution accordingly the resulting traffic data used in the air quality assessment is considered to be overly conservative.

As such, it is not anticipated that the development would lead to any non-significant impacts at any sensitive locations.

Comment 5 (16th August 2021)

'I have undertaken some calculations (derived from development particulars and values given the various Vectos reports) in order to derive a representative 'high middle-estimate' of average gross trip generation, for comparison to the low-middle- & saturation- estimates.

I have generated a figure of 2653 AADT, which would represent a net uplift of +703 AADT. I believe this to represent a reasonable illustration of the range of likely real-world impact of the development, and it is interesting to note that the Air Quality assessment has accounted for an net change in AADT which approximates to a middle value between the (Vectos-derived) low- and (EH calculated) high- estimates. Figures presented below for clarity;

- Conceptual 'saturation transport demand' (calculated by EH) = 4792/day (Gross) [+2842 Net]
- 'high middle-estimate' (calculated by EH) = 2653/day (Gross) [+703 Net]
- Delta Simons Air Quality Assessment = 2549/day (Gross) [+599 Net]
- 'low-middle-estimate' (Vectos Feb'21) = 2414/day (Gross) [+466 Net]

The conceptual saturation demand estimate is rejected as an AADT scenario for the reasons given above. Given the issues highlighted with the bespoke traffic data, the low-middle-estimate is considered to slightly under-represent likely gross AADT demand. The basis for the Delta Simons estimate is unclear. I will use the 'high middle-estimate' as the basis for qualitative consideration of air quality impacts.

Qualitative Assessment of likely Air Quality Impacts

The difference between the 'high middle-estimate' and the demand used in the Delta Simons Air Quality assessment is +104 AADT, or +17.36%. Accounting for the effect of this additional traffic for receptors calculated within the air quality assessment does not result in any material change to the conclusions.

I have previously highlighted that the most air-quality-sensitive receptor likely to be affected by traffic associated with the proposed development was not included within the scope of the report.

I note that the traffic distribution model is not in dispute. This means that 56-59% gross development traffic will be routing via Park Road South, and up to 15% could benefit from utilising local road network 'rat runs'. Assuming a broadly similar routing model applies to the existing site, the corresponding net-change equates to +395 & +105 AADT respectively. Of these, it is noted that around 20% might be expected to be zero-emission vehicles (at this development, given the specific proposals), contributing principally to particulate pollution, but negligibly to Nitrogen Oxides (NO_x & NO₂). Emissions factors apply to conventionally fuelled vehicles.

In terms of NO₂ (the pollutant of concern for the receptor identified), the effective uplift (of conventionally emitting vehicles) might be expected to be +316 AADT. Rough calculations based upon both the results of the Delta Simons report & local monitoring data indicate that the likely impact at Cardinal House would be classified as 'slight, adverse', with a predicted environmental concentration (PEC) of approximately 86% of the NAQS objective at the receptor.

In other words, the development may be expected to adversely impact local air quality at this sensitive receptor, but that the development can be sustainably accommodated without breach of any air quality standards, and without causing a deterioration in local air quality of unacceptable magnitude.

Applying the same logic to receptors located on the viable rat runs, the +104 AADT is considered to be extremely unlikely to create a significant adverse impact, in air quality terms.

In consideration of the above, an objection on air quality grounds cannot reasonably be sustained, and on this basis I withdraw my holding objection.'

Response 5

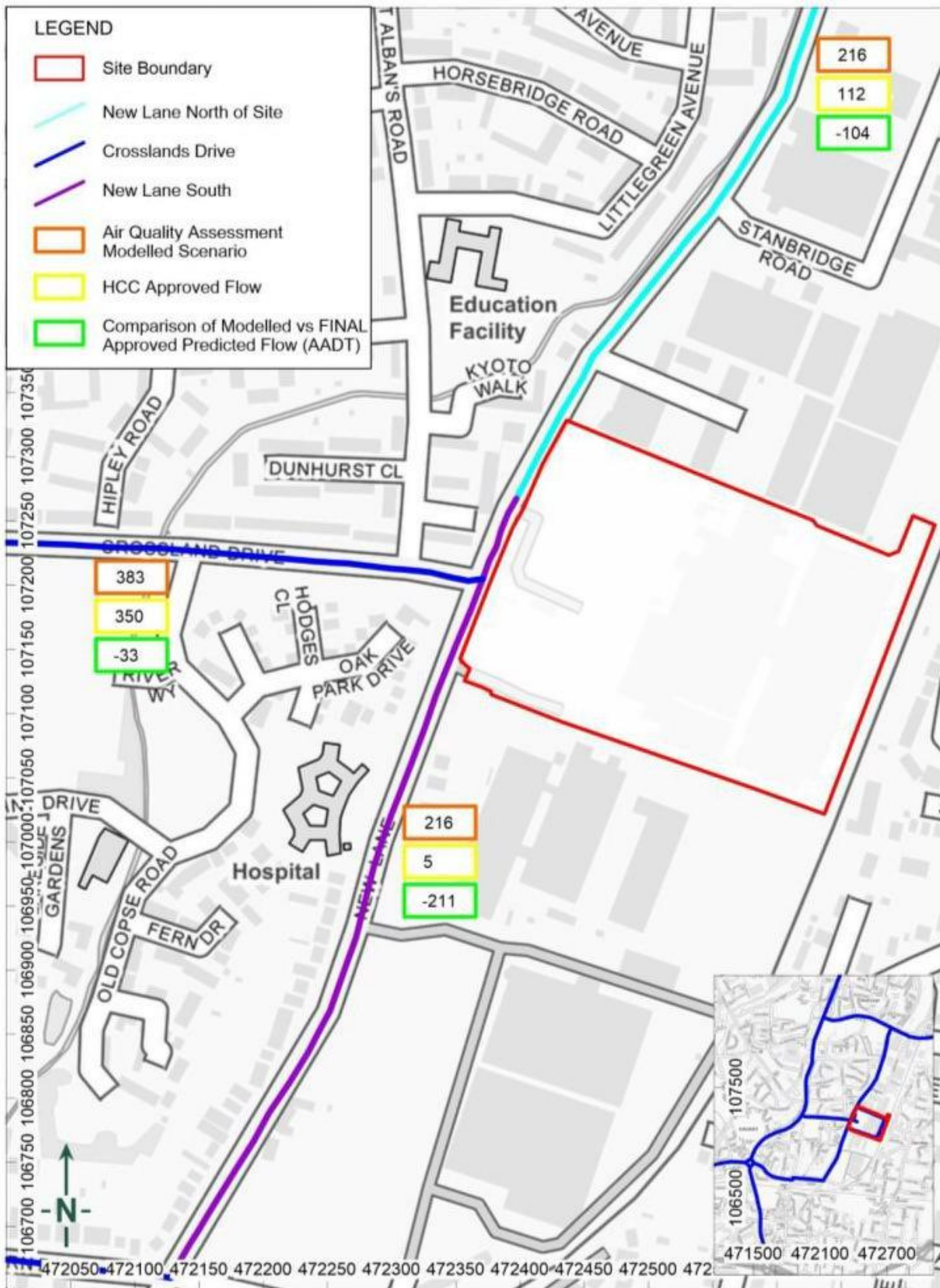
The EHO has qualitatively considered a theoretical 'high-middle-estimate' trip generation for the Proposed Development, which is presented as being conservative. This has been compared to the data used in the DS Report, which was based on earlier Vectos estimates prior to the agreement of 'final' flows between Vectos and HCC.

As stated in **Comment 5**, this scenario would lead to a theoretical AADT change on Park Road South of circa 395 vehicles. This figure would be approximately 20% higher than the 329 considered in the DS Report. Assuming a robust approach, whereby the change in pollutant concentrations at the receiving environment has a linear relationship with the change in traffic flows, this in theory, would lead to a 20% increase in predicted pollutant concentrations associated with development-generated trips.

It is agreed therefore, that the potential impact at receptors on Park Road South would in theory be slight adverse, as a worst-case. This corresponds to the inferences of **Response 4**, that 'not significant' residual impacts on air quality would be anticipated at all individual receptor locations in the vicinity of Park Road South, and overall, as a result of the Proposed Development.

Summary

The results of the January 2021 Delta-Simons Air Quality Assessment indicate that the Proposed Development is expected to result in a **negligible** impact associated with the operational phase traffic on nearby receptors and the residual effects are accordingly, considered to be **not significant**. This assessment was undertaken with higher levels of traffic than would be associated with the Site and therefore means that a very robust assessment has been undertaken.



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.

Appendix B - HBC Comments and Delta-Simons Responses

4th July 2021

1. HBC Comments and Delta-Simons Responses

Comment 1

'Air Quality - Impact Assessment, Construction Phase (Construction Management Plan)

Comments relate to the Delta Simons Air Quality Assessment Report Ref: 20-1275.01 iss.2 (April 2021) & the TSL Construction Management Plan dated 12/01/21 issue 1.

The Air Quality report concluded that unmitigated construction activities would represent up to high risk of dust soiling impacts and medium risk of increases in particulate matter concentrations, but that through the implementation of suitable mitigation measures, the effect of dust and PM₁₀ releases would be significantly reduced (to a low/negligible risk). Suggested measures are outlined within section 6.1, and these measures are agreed to represent good practice.

The measures given in section 6.1 of the air quality report are broadly represented in the TSL management plan. I would recommend that the TSL management plan be listed as an approved supporting document comprising an integral part of the scheme, so as to make it's contents (in principle) 'enforceable'. I don't believe that a specific compliance condition is strictly necessary.

If the Development Management service considers it necessary to include a specific condition requiring that the CMP be observed, please let me know and I will draft some condition wording which refers to compliance the submitted framework document & establishes a requirement for LPA approval to be obtained for revisions in respect of certain sections (e.g. working hours, dust suppression etc.).'

Response 1

As stated in paragraph 6.1.1 of the DS Report, 'a Construction Management Plan has been provided and summarises the systems, procedures and controls that will be adopted by the Principal Contractor and the Sub-contractors to minimise any adverse environmental effects during construction.' This is the TSL Management Plan referred to above.

Specific detail with regard to the works schedule and methods were not available when the assessment work for the DS Report was undertaken.

Comment 2

'Air Quality – Impact Assessment, Operational Phase

Comments relate to the Delta Simons Air Quality Assessment Report Ref: 20-1275.01 iss.2 (April 2021).

The report refers to the EPUK & IAQM industry guidance 'planning for air quality' v1.2 2017 in determining significance of any changes to local air quality. The report does reference both National & Local Policy, but does not recognise that the industry guidance pre-dates both the NPPF & LP2036 Policies, nor that there is a compelling argument to make that the significance scales given within the industry guidance is no longer compatible with prevailing policy. Relevant illustrative text from the NPPF is quoted within the report.

In addition, emerging policy from the LP2036 deliberately aims to better the degree of protection offered by the industry guidance, and the extant policy (DM10) includes wording which is compatible with the latest version of the NPPF (i.e. including 'health' focus in addition to a 'standards focus'. I refer to this policy context in light of uncertainty in the reliability of the outputs of the assessment, and of the conclusions that are based upon these outputs.'

Response 2

The DS Report (dated 26th January 2021) referred to the significance criteria from the EPUK/IAQM (2017) guidance for the operational phase assessment of vehicle emissions. Whilst this industry-standard guidance pre-dates the latest version of the NPPF, used in combination with worst-case model inputs it is considered to represent a robust assessment.

As detailed in paragraph 5.3.4, of the DS Report:

'for the purposes of the assessment, traffic data for 2022 was utilised as the development opening year. Air quality is predicted to improve in the future based on expected reduction in roadside levels as a result of technological advancements as stated in Section 3.2.13. However, in order to provide a robust assessment, emission factors and background concentrations for 2019 were utilised within the dispersion model. The use of 2022 traffic data and 2019 emission factors and

background concentrations is considered to provide a worst-case scenario and therefore a sufficient level of confidence can be placed within the predicted pollution concentrations.'

It is noted that the Havant Borough Local Plan 2036 (LP2036) is yet to be adopted, although it was considered in the assessment. Policy E23 states:

'The purpose of this policy is therefore at least to sustain existing levels, and where possible secure improvements in air quality by requiring new development to offset its associated emissions.'

As no significant change to pollutant concentrations is anticipated as a result of the Proposed Development, it is considered to comply with this draft policy, in terms of sustaining existing levels of air pollution. However, as detailed in paragraph 6.2.2 of the DS Report:

'the occupier will be introducing electric vehicles to its fleet and associated charging infrastructure at the Site 'in order to limit the impact of the Site's operations on the environment'.

Further details of the proposed mitigation measures that could benefit air quality were not available at the time the DS Report was completed. However, a Travel Plan produced by the Project Transport Consultant (PTC) (Vectos ref: 205452/R02; dated January 2021) has since been submitted in support of the planning application. The Travel Plan includes the following measures that will reduce overall emissions to air associated with the operation of the Proposed Development:

- ▲ Welcome packs and notice boards to inform employees of the Travel Plan;
- ▲ Measures to promote the use of public transport, including provision of details of local bus and rail services to staff;
- ▲ Measures to promote walking and cycling to and from the Site, including segregated routes on Site, cycle parking, lockers and changing facilities;
- ▲ Promotion of car sharing schemes and national events; and
- ▲ Ongoing monitoring and review of the Travel Plan.

Comment 3

'I note that the baseline traffic figures used for the assessment are crude; there is poor resolution in traffic flow estimates between road links and the figures quoted do not appear to correspond to the values given by the referenced source; differing substantially in the estimate of proportion of traffic representing HGV's, for example. Some values attributed to key road links differ significantly from estimates used in assessments undertaken for other developments – differing by up to a -1/3rd (Park Road North / Park Road South in particular). This will reduce the accuracy of the model. Where the verification points are close to the affected road links (e.g. DT22), this will serve to increase the magnitude of the adjustment factor that needs to be applied. Where verification points are not on affected road links (e.g. if adjacent to an accurately characterised link, effects will not be fully accounted for within the verification process..'

Response 3

Whilst the base traffic flows for the Air Quality Assessment detailed in the DS Report were derived from the Department for Transport (DfT), additional flows were also obtained from a review of previous assessments in the vicinity, including those for the verification link which covers DT22/DT28.

Specifically, the additional base flow data were obtained from the Air Quality Assessment for the Former Colt International Site (WYG ref: A090070-182; dated March 2018) for use on links where DfT traffic flows were not available. These were then factored to the appropriate assessment years using TEMPro growth factors.

With reference to Appendix E of the DS Report, it should be noted that an RMSE of 1.18 was calculated, indicating a good correlation between monitored and modelled datasets at the verification locations. Furthermore, in order to manage the current traffic survey challenges, associated with prevailing low traffic flows (as a result of the recent restrictions), conservative model inputs were used for the future scenarios, including 2019 emissions factors and background pollutant concentrations.

Comment 4

'It should also be noted that the quantitative assessment of development impact is based upon overall operational trip generation figures and 'net change in trip generation' estimates which are both disputed by the Highways Authority. This raises doubts as to the validity (or 'representativeness') of the estimate of development impact (both in highway, and air quality terms).

Contradictory (development operational-phase traffic) trip distributions are also given in the transport assessment, understood to be a result of a typographical error. Allocation of the development trips to the local road network is not stated clearly in the report, and is only possible to derive by calculation. It appears the air quality assessment may have been based upon a distribution broadly corresponding to Table 5.8 of the traffic assessment (though full calculations have not been undertaken). Table 5.8 is expected to represent the 'correct' figures. Given that 57% of development traffic being expected to access the strategic road network ('SRN', A27) at the Havant Junction (approaching from the local road network, 'LRN'), and Park Road (North / South) is a road link where kerbside exceedances of national air quality standards are known to be likely to occur at junctions; I am unclear as to why no receptors have been considered on this route.'

Response 4

It is understood that both the predicted total operational phase trip generation of the Proposed Development and its distribution have been revised since the DS Report was completed. The latest transport information has been submitted to Hampshire County Council (HCC) in the form of a Supplementary Transport Assessment (Vectos; dated July 2021), which includes an updated Travel Plan in Appendix I. However, the flows that were used in the detailed dispersion modelling of air quality are considered to be robust.

Within the Supplementary Transport Assessment, the PTC has indicated that the net trip generation of the Proposed Development will be 466 Annual Average Daily Traffic (AADT) trips, which is significantly lower than the 599AADT considered in the DS Report. This figure is also under the 500AADT EPUK/IAQM threshold, above which 'significant' impacts on air quality are likely to occur.

A comparison of the modelled development Annual Average Daily Traffic (AADT) trips on each key road link, compared to those now predicted by the PTC, is included in the table below.

Road	AQA Modelled Scenario		Updated Scenario		Comparison of Modelled vs Predicted Flow (AADT)
	% Development traffic using route	AADT increase due to development (599 total)	% Development traffic using route	AADT increase due to development (466 total)	
New Lane North of Site	36%	216	29%	135	-81
New Lane South of Site	36%	216	1%	5	-211
Crosslands Drive	64%	383	70%	326	-57
B2148 Petersfield Road	61%	365	70%	326	-39
B2149 Park Road	55%	329	56%	261	-68

As indicated above, the predicted transport flows generated by the Proposed Development are lower on all of the assessed road links and, therefore the impacts on pollutant concentrations would be lower than those detailed in the DS Report. As such, the impact of the Proposed Development on concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) would be **negligible**, with the resulting effect considered to remain **not significant**.

Furthermore, it should be noted that as part of the overall robust approach, in order to correspond with the surrounding road network, it was assumed that 5.2% of the development-generated traffic would be Heavy Duty Vehicles (HDVs), whereas in reality a net reduction in HDV flows is predicted. As such, it is anticipated that emissions from the traffic generated by the Proposed Development would be significantly lower than those used in the model, as detailed in Appendix E of the DS Report.

Comment 5

'The residents of Cardinal House (on the corner of Park Road South & Elm Lane are considered to represent the worst-case receptor, and the omission of this receptor undermines confidence in the conclusions of the assessment.'

Response 5

The greatest changes in pollutant concentrations as a result of the Proposed Development are anticipated in the vicinity of the Site, where the greatest changes in traffic flows will occur, as a result of the development, before it disperses. Therefore, residential properties on Park Road are not considered to be worst-case receptor locations.

Nevertheless, it is noted that the recent roadside/near-kerbside diffusion tube NO₂ monitoring records on this stretch of road were below the annual mean Air Quality Objective (AQO). Therefore, as the maximum predicted change at the most significantly affected receptor locations are not greater than 1% of the relevant AQOs, it is anticipated that any impacts on these receptors would lead to a 'not significant' effect.

Comment 6

'In terms of the actual volume of traffic accounted for, it would appear the air quality assessment has considered a net growth in traffic demand as +599 as 'total vehicles, AADT'. The vehicle type distribution assumed is unclear, and I note that both the net-change in flows and the development traffic routing choices assumed (considered as a binary choice from site access) both differ from the net figures given in the transport assessment (from -90 to +466 depending on scenario & 70/30 direction split, given in the transport assessment, compared with +566 & 60/40 split in the air quality assessment). This is illustrative of the 'fluidity' of estimates of transport demand, which I will return to in the sections below.'

Response 6

As detailed above, the current predictions for the Proposed Development's net growth in traffic flows is +466AADT, which is under the 500AADT EPUK/IAQM threshold, above which 'not significant' impacts on air quality are likely to occur. As a higher figure of +599AADT was used in the Air Quality Assessment, the DS Report is considered to be robust, as are the flows on each individual road link.

Summary

The results of the January 2021 Delta-Simons Air Quality Assessment indicate that the Proposed Development is expected to result in a **negligible** impact associated with the operational phase traffic on nearby receptors and the residual effects are accordingly, considered to be **not significant**.