



TECHNICAL NOTE – WSP Response to Air Quality Comments

DATE:	12 September 2023	CONFIDENTIALITY:	Public
SUBJECT:	Ageas Bowl - Response to Pollution Control Officers Comments on the Submitted Air Quality Assessment		
PROJECT:	70073579	AUTHOR:	Alex Jones
CHECKED:	Caroline Odbert	APPROVED:	Caroline Odbert

The WSP Air Quality Assessment dated May 2022 (report reference 70073579-002), was submitted with the planning application (Eastleigh Borough Council application reference F/22/93194) for a mixed-use development including residential properties, a care home, and a hotel. This note provides a response to internal consultee comments made by Jon Pyke, Pollution Control Officer (PCO) at Eastleigh Borough Council (EBC), on 14th April 2023.

CONSULTEE COMMENTS

Jon Pike provided the following response on whether the proposals are an acceptable use of land from the perspective of air quality impact:

“Focussing first on operational impact, this depends upon traffic generation or induced traffic on the local highway network, and this includes Air Quality Management Area. The effect of this has been modelled quantitatively as we would expect for development of this magnitude and potential impact. One of the matters for concern is the number of events or peak days of traffic when there is potential for exceedance of short-term Air Quality Objectives. Current (or last observed with reasonable accuracy and compared to quantitative modelling output) the number of days of exceedance of ten or less micron diameter particulate matter is three whereas the objective or limit is 35 days. With development, this increases by one day. For small or fine [sic] particulate matter (2.5 or less microns) are a small fraction of limit. With respect to nitrogen dioxide, the short-term hourly contribution from the development would be small based upon ratio to the annual mean contributions. Travel plans are proposed for the residential and workplace elements of the development and of course electric vehicle charging facilities for which there is mandatory minimum requirement and could be increased for the reason of least regret in the future.

For onsite development such as dwellings and homes, compliance is predicted by comparison to existing roadside sensitive receivers. For this reason, the report proposes the site is considered suitable for its intended use.

Of course, underpinning the assessment is a traffic engineering model and we must ask colleagues for comment on this as to whether the assumptions or forecasts are reasonable. The annual average weekday traffic used in assessment of air quality are presented in Appendix C. We are not provided with short term data say when events are held at the Ageas Bowl and an estimation of the number of events or days per year these might happen. Based on our discussion, this is stated elsewhere in the application documents.

For construction of a development of this size and proximity to sensitive receivers an air quality assessment is appropriate. The modelling predicts dust emissions from earthworks and construction and the impact these may have. A medium risk of dust soiling which can be a nuisance is predicted and low risk of health impact from small or fine particulate matter. This sounds acceptable, but we should consider the possible duration of the works as they may be perceived as medium or long term. If the development goes ahead, we would like to see specific mitigation measures in detail before works commence. We expect a



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Construction and Environmental Management Plan to be accompanied by a Construction Air Quality Management Plan or Dust Management Plan in proportionate detail and representing works as they are planned and programmed by the applicant's project manager or contractor."

WSP RESPONSE

The following response relates to the key points raised in the section above, which we believe are:

1. Impact of traffic generation on the local highway network, including the Air Quality Management Area.
2. Traffic data assumptions and suitability of the forecasts
3. The impact of 'event-days' on the exceedance of the short-term Air Quality Objectives (for PM₁₀ in particular)
4. Suitability of the land for new sensitive receptors
5. Construction assessment and the management of risk during works

Point 1 - Impact of traffic generation on the local highway network, including the Air Quality Management Area.

The air quality assessment quantitatively assessed the impact of the Proposed Development on the local road network, through detailed dispersion modelling at nearby sensitive receptors (both human and ecological). This was undertaken using the ADMS Roads and utilised transport data provided by WSP. The years for which data were provided included 2019 (for the baseline and model verification) and 2027 (both without and with development) for the impact assessment. 2019 represents the last year before the impact of COVID-19 on traffic flows and 2027 was the predicted year of completion at the time of the assessment. The models were verified using data from local authority monitoring locations in line with relevant guidance¹. The modelling concludes that the Proposed Development has a negligible impact on the nearby Air Quality Management Areas.

The impacts and conclusions within the air quality assessment relate purely to the planning application (a mixed-use development including residential development, a care home, and a hotel) and therefore, there is no change proposed to the frequency or the capacity of events. It should be noted that as part of the Proposed Development, there is a small reduction in event/matchday parking on-site from the current provision (1,560 proposed, down from 1,685).

¹ Local Air Quality Management Technical Guidance LAQM.TG(16) – Now LAQM.TG(22), however there are no changes which are relevant to this assessment in the update.

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Point 2 – Traffic data assumptions and suitability of the forecasts

The scope of the transport assessment was agreed with both Hampshire County Council and National Highways, with the latter issuing a ‘no objection’ response to the planning application. As the planning application does not relate to match day frequency or capacity, the traffic data used represented the change in trips on the road network that were solely relating to the development proposals (i.e. the baseline traffic flows would not change as there is no proposed change to the number of events, or increase in on-site event parking). It should also be noted that the air quality assessment did not consider the slight proposed reduction in on-site parking spaces (from 1,685 to 1,560).

It should be noted that the proposals do not result in any changes to the number of car parking spaces available at the off-site Thorneydown Farm parking site. As such, there is also no expected redistribution of event-day trips because of the development proposals.

Point 3 – The impact of ‘event-days’ on the exceedance of the short-term Air Quality Objectives (for PM₁₀ in particular)

Event days are infrequent and anecdotal evidence suggests traffic flows on Botley Road remain broadly similar on event / non-event days. This is because of the extensive traffic management plans (including advanced warning signage) are implemented, which means that people are aware of the events taking place and avoid the area. Given the proposals will not change event-day flows or frequency, the short-term impact of event-day traffic on the road network on those days has not been explicitly assessed.

With regards to exceedances of the PM₁₀ short-term Air Quality Objective, both the current monitoring² and baseline/future baseline modelling suggest that the number of days exceeding the short-term daily limit (50µg/m³) is well below the objective (50µg/m³ not to be exceeded more than 35 times a year).

Therefore, with the current baseline conditions, for PM₁₀ there is significant headroom in terms of both long-term and short-term concentrations and the Proposed Development will not have an effect on the event-day contribution. However, with addition of the Proposed Development, the modelling predicts that across the receptors assessed, the maximum days exceeding 50µg/m³ is three. The number of days exceeding is unchanged across most of the modelled receptors, with an increase of one day at two locations. However, this is still well below the 35 days per year and there is therefore significant headroom below the objective.

This is also reflected within the NO₂ concentrations in the immediate vicinity of the Application Site. For passive monitoring locations (such as those near the Application Site), a proxy annual mean concentration

² Across locations in Eastleigh and Southampton in 2019, the maximum monitored number of days exceeding 50µg/m³ is three. The nearest automatic monitoring location that monitors PM₁₀ is approximately 4.4km from the Application Site.

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(60µg/m³) is used to indicate if there is a risk of the short-term objective for NO₂ being exceeded (an hourly mean - 200µg/m³ not to be exceeded more than 18 times a year).

Between 2015 and 2020, the long-term objective for NO₂ (40µg/m³) was easily met at all monitoring sites within 2km of the Application Site. Of the roadside locations in the immediate vicinity of the Application Site, the highest NO₂ annual mean concentration in the time covered was 31.7µg/m³ in 2016. There are exceedances of the long-term objective for NO₂ within the existing AQMAs (such as the Hamble Lane Area AQMA), however monitored concentrations show expected compliance with the short-term objective. The monitored concentrations also show that there has been an overall gradual improvement in annual mean NO₂ concentrations over this time, which will continue with improvements in vehicle emissions and fleet renewal. For NO₂, there is also no concern when it comes to the short-term objective, however further away from the Application Site, there are exceedances of the long-term objective and the impact of the Proposed Development on the AQMAs is detailed in Point 4 below.

Point 4 – Impact on existing human receptors and suitability of the land for new sensitive receptors

The detailed dispersion modelling predicts that the impact on existing human receptors is negligible for all modelled pollutants, at all receptors. The impacts of the Proposed Development on receptors within the nearby AQMAs (AQMA No.2 (Bitterne Road West) and Hamble Lane Area AQMA) have been assessed and concluded as negligible. This is because of both expected trip distribution from the Proposed Development and the predicted improvement in both background NO₂ concentrations and road source emissions by 2027.

The concentrations predicted at proposed receptors is well below all relevant objectives, in part due to the location of the receptors, as they are set back from major roads. As such, the Application Site is suitable for new sensitive receptors.

Point 5 – Construction assessment and the management of risk during works

A Dust Management Plan (DMP) should be produced and incorporated into a Construction and Environmental Management Plan (CEMP) prior to works starting. This will ensure that the suggested dust mitigation measures are understood, agreed upon and applied by contractors. When mitigation measures and good site practice is implemented, the residual effects of dust and PM₁₀ generated by construction activities will be negligible.

SUMMARY

This technical note provides a response to the points raised by the EBC PCO in connection with the air quality assessment submitted for the proposed mixed-use development at the Ageas Bowl.

We believe the air quality assessment and conclusions to be valid, as the development proposals do not include any changes to the frequency or capacity of events on-site. As such, the air quality assessment



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focuses on the impact of the Proposed Development on sensitive receptors in the vicinity of the local road network. Additionally, the Application Site is suitable for new sensitive receptors due to the low pollutant concentrations predicted and agrees with the EBC PCO’s comments for the requirement of a DMP as part of a CEMP.