Main Statement of Case Appendix 8

AIR QUALITY STATEMENT OF CASE BY REDMORE ENVIRONMENTAL

Statement of Case (Air Quality)

Sandown Park Racecourse

Client: Jockey Club Racecourses Limited

Reference: 2478-2r4

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1.0 INTRODUCTION

1.1.1 Redmore Environmental Ltd was instructed by Jockey Club Racecourses Ltd to undertake an Air Quality Assessment in support of the proposed redevelopment of Sandown Park Racecourse in December 2018. The findings were summarised in an Environmental Impact Assessment (EIA) Chapter submitted as part of the overarching Environmental Statement produced by Rapleys and dated 19th February 2019[1] (Core Document CD5.43 and CD5.48). This was submitted in support of the planning application for the proposals.

1.1.2 The Environmental Services department of Elmbridge Council in their comments dated 25th April 2019, as well as the Planning Officers in their Report (Core Document CD7.3), considered the information submitted with the planning application and raised no technical or other objection on air quality grounds. The Planning Committee considered the planning application and associated information and refused planning permission on 3rd October 2019. Air quality was a matter included within reason 1 for refusal as causing harm. There was no basis in evidence for this conclusion by members of the Planning Committee.

1.1.3 Reason for Refusal 1 states:

> "The proposed development represents inappropriate development in the Green Belt which would result in definitional harm and actual harm to the openness of the Green Belt and it is not considered that the very special circumstances required to clearly outweigh the harm to the Green Belt and any other harm, including impact on transport (highway and public transport capacity), air quality and insufficient affordable housing provision, have been demonstrated in this case. The proposed development by reason of its prominent location would be detrimental to the character and openness of the Green Belt contrary to the requirements of the NPPF, Policies CS21 and CS25 of the Elmbridge Core Strategy 2011 (Core Document CD1.1), Policies DM5, DM7 and DM17 of the Elmbridge Development Management Plan 2015 (Core Document CD1.2)."

[1] Environmental Statement for Jockey Club Racecourses Ltd - Sandown Park Racecourse, Portsmouth Road, Esher (reference srs/385/12/6), Rapleys, 2019.

1.1.4 This Statement of Case sets out the background to the project and associated Air Quality Assessment and provides information to indicate how the development is policy compliant, as well as support the planning appeal.

2.0 AIR QUALITY ASSESSMENT

2.1 Assessment Scope

2.1.1 The submitted Air Quality Assessment included assessment of the potential impacts as a result of the proposed development on existing pollution levels during construction and operation, as well as the exposure of future residents to poor air quality. This included consideration of the following:

- The legislative and planning context relating to air quality;
- Establishing baseline conditions, including review of existing air quality and identification of sensitive receptor positions;
- Assessing potential construction phase air quality impacts associated with fugitive dust and vehicle exhaust emissions;
- Assessing potential operational phase air quality impacts associated with vehicle exhaust emissions;
- Assessing the suitability of the application site for the proposed land uses, which includes the addition of potentially sensitive receptors (e.g. residential properties); and,
- Consideration of the significance of the predicted air quality impacts.

2.1.2 The findings are summarised in the following Sections.

2.2 Legislative Context

2.2.1 Road traffic exhaust emissions include particulate matter with an aerodynamic diameter of less than 10µm (PM_{10}) and oxides of nitrogen (NO_x). This comprises both nitrogen dioxide (NO_2) and nitric oxide (NO). NO readily oxidises in normal atmospheric conditions to form NO_2. There are a number of health effects associated with elevated NO_2 and PM_{10} concentrations and vehicles have been identified as one of the most important sources of these pollutants throughout many locations in the UK.

2.2.2 Ambient pollutant concentrations are controlled in the UK through the Air Quality Standards Regulations 2010. They transpose into English law the requirements of EU Directives 2008/50/EC and 2004/107/EC on ambient air quality. Air pollution standards are designated to protect human health and the environment. These include health based

Air Quality Limit Values (AQLVs) for annual mean and 1-hour mean NO_2 concentrations and annual mean and 24-hour mean PM_{10} concentrations, amongst other pollutants. The relevant criteria are shown in Table 1.

Table 1 Air Quality Criteria for the Protection of Human Health

Pollutant	Air Quality Criteria	
	Concentration (µg/m³)	Averaging Period
NO_2	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum

2.2.3 It should be noted that the AQLVs are generally in line with the Air Quality Objectives (AQOs) outlined within the Air Quality Strategy produced by DEFRA in July 2007[2] (Core Document CD3.27), although the requirements for the determination of compliance vary.

2.2.4 The AQLVs have been transposed into national legislation in accordance with the requirements of European Union (EU) Directive 2008/50/EC. As stated within the Directive[3], these values were:

> "fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole"

2.2.5 The values are therefore considered appropriate for the assessment of potential impacts on health.

2 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, DEFRA, 2007.

3 Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe, Official Journal of the European Union, 2008.

2.3 Planning Policy Context

National Policy

2.3.1 The revised National Planning Policy Framework[4] (NPPF) (Core Document CD2.1) was published in February 2019 and sets out the Government's core policies and principles with respect to land use planning, including air quality. The document includes the following considerations which are relevant to the proposed development:

> "170. Planning policies and decisions should contribute to and enhance the natural and local environment by:
>
> […]
>
> e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality […]"
>
> "181. Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

2.3.2 The implications of the NPPF were considered throughout the submitted Air Quality Assessment (Core Document CD.5.43 and CD5.48).

[4] NPPF, Ministry of Housing, Communities and Local Government, 2019.

Local Planning Policy

2.3.3 The Elmbridge Development Management Plan[5] (Core Document CD1.2) was adopted in April 2015 and provides the detailed policies against which planning applications are assessed. Review of the Development Management Plan revealed the following policy of relevance to the Air Quality Assessment:

> "DM5 - Pollution
>
> […]
>
> c. Air Quality
>
> Within designated Air Quality Management Areas, the Council will promote measures to improve air quality and will expect development proposals to avoid introducing additional sources of air pollution. For proposals falling within an Air Quality Management Area and/or where the Council considers that air quality objectives are likely to be prejudiced, applicants will be expected to submit a detailed specialist report which sets out the impact that the proposed development would have upon air quality. Planning permission will not be granted for proposals where there is significant adverse impact upon the status of the Air Quality Management Area or where air quality may have a harmful effect on the health of future occupiers of the development, taking into account their sensitivity to pollutants, unless the harm can be suitably mitigated."

2.3.4 The above policy was taken into consideration throughout the undertaking of the Air Quality Assessment.

2.4 Baseline Conditions

2.4.1 Baseline conditions were established in the following manner:

- Identification of local Air Quality Management Areas (AQMAs);
- Identification of local monitoring data;

[5] Elmbridge Development Management Plan, EBC, 2015.

- Review of national pollutant background mapping produced by DEFRA; and,
- Identification of sensitive receptor locations.

2.4.2 As required by the Environment Act 1995, EBC has undertaken a review and assessment of air quality within their area of jurisdiction. This process has indicated that annual mean concentrations of NO_2 are above the AQO within the borough. As such, seven AQMAs have been declared. The closest of these to the development is the Esher AQMA, which is located along High Street, Church Street and including parts of Esher Green and Lammas Lane.

2.4.3 The southern development boundary is immediately north of the Esher AQMA. As such, potential impacts as a result of additional exhaust emissions from vehicle trips produced by the development within this sensitive area were considered within the Air Quality Assessment.

2.4.4 Monitoring of NO_2 concentrations is undertaken by EBC throughout their area of jurisdiction. Review of the results indicated compliance with the annual mean AQO in Esher during 2017, though exceedances were recorded during 2015 and 2016. Elevated concentrations would be expected based on the AQMA designation.

2.4.5 Ambient PM_{10} concentrations are not monitored in the vicinity of the development site.

2.4.6 Review of the DEFRA mapped background data for the site, which provides a general indication of air quality in an area away from specific sources, indicated low predicted NO_2 and PM_{10} concentrations. This would be expected due to the suburban nature of Sandown Park.

2.5 Methodology

Construction Phase Fugitive Dust Emissions

2.5.1 The assessment of potential air quality impacts associated with fugitive dust emissions during construction was undertaken in accordance with the IAQM document 'Guidance on the Assessment of Dust from Demolition and Construction V1.1'[6] (Core Document

[6] Guidance on the Assessment of Dust from Demolition and Construction V1.1, IAQM, 2016.

CD3.28). This has been produced by the relevant institute for air quality practitioners in order to aid in the assessment of potential air quality impacts associated with planning applications in lieu of Government guidance. The methodology is therefore considered reasonable for a project of this nature.

Construction Phase Road Vehicle Exhaust Emissions

2.5.2 The assessment of potential air quality impacts associated with road vehicle exhaust emissions during construction was undertaken in accordance with the IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality'[7] (Core Document CD3.29). This has been produced by the relevant institute for air quality practitioners in order to aid in the assessment of potential air quality impacts associated with planning applications in lieu of Government guidance. The methodology is therefore considered reasonable for a project of this nature.

Operational Phase Road Vehicle Exhaust Emissions

2.5.3 In order to predict air quality impacts associated with road vehicle exhaust emissions during operation, as well as consider the potential for exposure of future residents to elevated pollution levels, a detailed dispersion model was developed of the road network surrounding the site. This included relevant information on traffic flow, speed and fleet composition, as well as meteorological conditions, surface characteristics and road geometries to predict the generation and dispersion of vehicle exhaust emissions. Dispersion modelling is a common assessment tool used for the prediction of future pollution levels which is suggested within the IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality'[8] (Core Document CD3.29) as being suitable for Air Quality Assessments in support of planning applications, it is also accepted by DEFRA and the Environment Agency. Model outputs were verified through comparison with local pollution monitoring results utilising the procedure outlined in DEFRA guidance LAQM.TG(16)[9] (Core Document CD3.30). This provided a level of confidence in the assessment outputs.

7 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

8 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

9 Local Air Quality Management (TG16), DEFRA, 2018.

2.5.4 The significance of predicted impacts on NO_2 and PM_{10} concentrations as a result of emissions from road vehicles was determined in accordance with the guidance provided within the IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality'[10] (Core Document CD3.29). Using this methodology impacts were defined based on the interaction between the predicted pollutant concentration from the Do-Something (DS) scenario (with development) and the magnitude of change between the Do-Minimum (DM) (without development) and DS scenarios. Anticipated vehicle trips associated with other committed developments in the area were included in the model inputs to ensure cumulative impacts were considered as necessary.

2.5.5 The IAQM guidance[11] (Core Document CD3.29) has been produced by the relevant institute for air quality practitioners in order to aid in the assessment of potential air quality impacts associated with planning applications that may affect concentrations of pollutants included within the Air Quality Standards Regulations (2010) in lieu of Government guidance. The methodology is therefore considered appropriate for a project of this nature.

2.5.6 Pollution levels were also predicted across the proposed development site. The results were subsequently compared against the relevant AQO to determine the potential for exceedance and to consider any potential exposure of future residents to elevated concentrations.

Impact Terminology

2.5.7 Although not covered within the IAQM documents, the following additional context has been provided in regards the impact descriptors based on EIA good practice:

- Negligible impact - No discernible consequences on the receiving environment;
- Slight impact - Impact with discernible undesirable/ desirable conditions that can be tolerated;
- Moderate impact - Impact with discernible undesirable/ desirable consequences on the receiving environment; and,

10 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

11 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

- Substantial impact - Impact with severe undesirable/desirable consequences on the receiving environment.

2.5.8 From EIA experience, **negligible** and **slight** impacts from a development are generally considered acceptable and do not require further mitigation, whilst **moderate** or **substantial** impacts would usually be unacceptable and require additional measures to reduce the predicted effect.

2.5.9 The IAQM guidance[12] (Core Document CD3.29) states that an assessment must reach a conclusion on the likely significance of the predicted impact. It should be noted that this is a binary judgement of either it is **significant** or it is **not significant**. The document states:

> "Often, it is possible to be very clear when an impact is sufficiently slight that it has no effect on receptors and can therefore be described unequivocally as 'not significant'. In the opposite case, when an impact is clearly substantial, it will be obvious that there is potential for a significant effect. The problem lies in the intermediate region where there is likely to be uncertainty on the transition from insignificant to significant. In those circumstances where a single development can be judged in isolation, it is likely that a 'moderate' or 'substantial' impact will give rise to a significant effect and a 'negligible' or 'slight' impact will not have a significant effect, but such judgements are always more likely to be valid at the two extremes of impact severity."

2.5.10 This was considered throughout the assessment when determining overall air quality impacts significance, particularly the position that a **moderate** or **substantial** impact is likely to give rise to a **significant** effect and a **negligible** or **slight** impact is likely to have a **not significant** effect. This supports the way in which the descriptors above are used in EIA.

2.5.11 Reference should be made to Appendix 1 for an extract from the IAQM guidance[13] (Core Document CD3.29) in relation to determining overall impact significance.

12 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

13 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

2.6 Results

Construction Phase Fugitive Dust Emissions

2.6.1 The results of the Air Quality Assessment (Core Document CD.5.43 and CD5.48) indicated that the residual effect from dust generating activities during construction following the implementation of the specified mitigation measures as part of the Construction Environmental Management Plan (CEMP) (Core Document CD5.46)was predicted to be **not significant**. This correlates with the IAQM guidance[14] (Core Document CD3.28) which states:

> "For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'."

Construction Phase Road Vehicle Exhaust Emissions

2.6.2 The results of the Air Quality Assessment (Core Document CD.5.43 and CD5.48) indicated that the residual effect following the implementation of the specified mitigation measures from road vehicle exhaust emissions during construction was predicted to be **not significant**. This was due to the low number of vehicle trips associated with the construction phase and proposed routing away from the relevant AQMAs as part of the CEMP (Core Document CD5.46).

Operational Phase Road Vehicle Exhaust Emissions

Summary

2.6.3 The results of the Air Quality Assessment(Core Document CD.5.43 and CD5.48) indicated that impacts on annual mean NO_2 and PM_{10} concentrations as a result of vehicle exhaust emissions associated with the operational phase of the development were predicted to be **negligible** at all 36 sensitive receptor locations, in accordance with the IAQM methodology[15] (Core Document CD3.29). These predictions are at the lowest end of the

[14] Guidance on the Assessment of Dust from Demolition and Construction V1.1, IAQM, 2016.

[15] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

spectrum between **negligible** and **substantial**. As a result, the overall significance of effect was determined as **not significant** in accordance with the IAQM methodology[16] (Core Document CD3.29).

2.6.4 The results of the Air Quality Assessment also indicated that predicted annual mean NO_2 concentrations were below the relevant AQO at all locations across the development. As such, the site was considered suitable for residential use from an air quality perspective.

Detailed Results - Predicted Pollutant Concentrations

2.6.5 Annual mean NO_2 concentrations were predicted at sensitive receptor locations for the following scenarios:

- 2027 - Do-minimum (DM); and,
- 2027 - Do-something (DS).

2.6.6 The "DM" scenario (i.e. without development) included baseline traffic data, inclusive of anticipated growth, for the anticipated year of development completion. The "DS" scenario (i.e. with development) included anticipated baseline traffic data, inclusive of anticipated growth, for the anticipated year of development completion, in addition to vehicle trips associated with the operation of the proposals.

2.6.7 It should be noted that the dispersion modelling assessment will be updated prior to the appeal hearing in order to take account of the latest data available at the relevant time.

2.6.8 Predicted annual mean NO_2 concentrations are summarised in Table 2.

Table 2 Predicted Annual Mean NO_2 Concentrations

Receptor		Predicted Annual Mean NO_2 Concentration (µg/m³)		
		DM	DS	Change
R1	Residential - Station Road	15.98	16.08	0.10
R2	Residential - Lower Green Road	14.37	14.42	0.05

16 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

Receptor		Predicted Annual Mean NO_2 Concentration (µg/m³)		
		DM	DS	Change
R3	Residential - More Lane	13.98	14.01	0.03
R4	Residential - Esher Green	17.17	17.27	0.10
R5	Residential - Lammas Lane	16.65	16.72	0.07
R6	Residential - Lammas Lane	14.88	14.92	0.04
R7	Hospice - Lammas Lane	16.30	16.36	0.06
R8	Residential - Portsmouth Road South	14.93	14.97	0.04
R9	Residential - Portsmouth Road South	15.79	15.85	0.06
R10	Residential - Claremont Lane	17.84	17.94	0.10
R11	Residential - Station Road	14.54	14.59	0.05
R12	Residential - Ember Lane	14.58	14.63	0.05
R13	Residential - Kingston Bypass	20.14	20.21	0.07
R14	Residential - Kingston Bypass	15.37	15.40	0.03
R15	Residential - Portsmouth Road North	19.83	19.90	0.07
R16	Residential - Portsmouth Road North	16.34	16.38	0.04
R17	Residential - First Floor High Street	19.72	19.85	0.13
R18	Residential - First Floor Church Street	26.92	27.15	0.23
R19	Residential - Church Street	20.83	20.97	0.14
R20	Residential - Church Street	29.68	29.95	0.27
R21	Residential - First Floor High Street	22.39	22.56	0.17
R22	Residential - First Floor High Street	22.79	22.97	0.18
R23	Residential - First Floor High Street	19.43	19.55	0.12
R24	Residential - First Floor High Street	22.23	22.39	0.16
R25	Residential - High Street	22.77	22.93	0.16
R26	Residential - Portsmouth Road	27.26	27.49	0.23
R27	Residential - First Floor Portsmouth Road	26.12	26.33	0.21
R28	Residential - First Floor Portsmouth Road	23.73	23.91	0.18

Receptor		Predicted Annual Mean NO_2 Concentration (µg/m³)		
		DM	DS	Change
R29	Residential - Lammas Lane	17.58	17.67	0.09
R30	Residential - Portsmouth Road First Floor	25.74	26.01	0.27
R31	Residential - Portsmouth Road First Floor	23.18	23.40	0.22
R32	Residential - Portsmouth Road	17.02	17.11	0.09
R33	Residential - Portsmouth Road	16.49	16.57	0.08
R34	Residential - Hampton Court Way	15.91	15.94	0.03
R35	Education Facility - Weston Green	15.06	15.09	0.03
R36	Residential - Hampton Court Way	15.98	16.02	0.04

2.6.9 As indicated in Table 2, predicted annual mean NO_2 concentrations were below the relevant AQO of 40µg/m³ at all receptors in both the DM and DS scenarios.

2.6.10 Reference should be made to Figures 1 and 2 for graphical representations of predicted annual mean NO_2 concentrations throughout the assessment extents for the DM and DS scenarios.

2.6.11 Annual mean PM_{10} concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in Table 3.

Table 3 Predicted Annual Mean PM_{10} Concentrations

Receptor		Predicted Annual Mean PM_{10} Concentration (µg/m³)		
		DM	DS	Change
R1	Residential - Station Road	13.83	13.85	0.03
R2	Residential - Lower Green Road	13.45	13.47	0.02
R3	Residential - More Lane	13.33	13.34	0.01
R4	Residential - Esher Green	14.08	14.11	0.03
R5	Residential - Lammas Lane	13.92	13.94	0.02

Receptor		Predicted Annual Mean PM_{10} Concentration (µg/m³)		
		DM	DS	Change
R6	Residential - Lammas Lane	13.50	13.51	0.01
R7	Hospice - Lammas Lane	13.93	13.95	0.02
R8	Residential - Portsmouth Road South	13.57	13.58	0.01
R9	Residential - Portsmouth Road South	13.78	13.80	0.02
R10	Residential - Claremont Lane	14.33	14.35	0.03
R11	Residential - Station Road	13.50	13.51	0.01
R12	Residential - Ember Lane	13.52	13.54	0.01
R13	Residential - Kingston Bypass	15.07	15.09	0.02
R14	Residential - Kingston Bypass	13.73	13.74	0.01
R15	Residential - Portsmouth Road North	14.88	14.90	0.02
R16	Residential - Portsmouth Road North	14.00	14.01	0.01
R17	Residential - First Floor High Street	14.80	14.83	0.04
R18	Residential - First Floor Church Street	16.20	16.25	0.06
R19	Residential - Church Street	14.79	14.82	0.03
R20	Residential - Church Street	16.87	16.94	0.07
R21	Residential - First Floor High Street	15.14	15.18	0.04
R22	Residential - First Floor High Street	15.22	15.26	0.04
R23	Residential - First Floor High Street	14.47	14.50	0.03
R24	Residential - First Floor High Street	15.10	15.14	0.04
R25	Residential - High Street	15.22	15.26	0.04
R26	Residential - Portsmouth Road	16.27	16.33	0.06
R27	Residential - First Floor Portsmouth Road	16.00	16.05	0.05
R28	Residential - First Floor Portsmouth Road	15.44	15.49	0.04
R29	Residential - Lammas Lane	14.07	14.09	0.02
R30	Residential - Portsmouth Road First Floor	16.02	16.09	0.07
R31	Residential - Portsmouth Road First Floor	15.40	15.45	0.05

Receptor		Predicted Annual Mean PM_{10} Concentration (µg/m³)		
		DM	DS	Change
R32	Residential - Portsmouth Road	14.28	14.31	0.03
R33	Residential - Portsmouth Road	14.11	14.14	0.03
R34	Residential - Hampton Court Way	13.90	13.91	0.01
R35	Education Facility - Weston Green	13.66	13.66	0.01
R36	Residential - Hampton Court Way	13.92	13.93	0.01

2.6.12 As indicated in Table 3, predicted annual mean PM_{10} concentrations were below the relevant AQO of 40µg/m³ at all sensitive receptors in both the DM and DS scenarios.

Detailed Results - Predicted Impacts

2.6.13 Predicted impacts on annual mean NO_2 concentrations at the sensitive receptor locations were assessed in accordance with the IAQM criteria[17]. The results are summarised in Table 4.

Table 4 Predicted Impacts - NO_2

Receptor		Predicted Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R1	Residential - Station Road	Below 75% of AQO	0	Negligible
R2	Residential - Lower Green Road	Below 75% of AQO	0	Negligible
R3	Residential - More Lane	Below 75% of AQO	0	Negligible
R4	Residential - Esher Green	Below 75% of AQO	0	Negligible
R5	Residential - Lammas Lane	Below 75% of AQO	0	Negligible
R6	Residential - Lammas Lane	Below 75% of AQO	0	Negligible
R7	Hospice - Lammas Lane	Below 75% of AQO	0	Negligible

[17] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

Receptor		Predicted Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R8	Residential - Portsmouth Road South	Below 75% of AQO	0	Negligible
R9	Residential - Portsmouth Road South	Below 75% of AQO	0	Negligible
R10	Residential - Claremont Lane	Below 75% of AQO	0	Negligible
R11	Residential - Station Road	Below 75% of AQO	0	Negligible
R12	Residential - Ember Lane	Below 75% of AQO	0	Negligible
R13	Residential - Kingston Bypass	Below 75% of AQO	0	Negligible
R14	Residential - Kingston Bypass	Below 75% of AQO	0	Negligible
R15	Residential - Portsmouth Road North	Below 75% of AQO	0	Negligible
R16	Residential - Portsmouth Road North	Below 75% of AQO	0	Negligible
R17	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R18	Residential - First Floor Church Street	Below 75% of AQO	1	Negligible
R19	Residential - Church Street	Below 75% of AQO	0	Negligible
R20	Residential - Church Street	Below 75% of AQO	1	Negligible
R21	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R22	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R23	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R24	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R25	Residential - High Street	Below 75% of AQO	0	Negligible
R26	Residential - Portsmouth Road	Below 75% of AQO	1	Negligible
R27	Residential - First Floor Portsmouth Road	Below 75% of AQO	1	Negligible
R28	Residential - First Floor Portsmouth Road	Below 75% of AQO	0	Negligible
R29	Residential - Lammas Lane	Below 75% of AQO	0	Negligible
R30	Residential - Portsmouth Road First Floor	Below 75% of AQO	1	Negligible

Receptor		Predicted Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R31	Residential - Portsmouth Road First Floor	Below 75% of AQO	1	Negligible
R32	Residential - Portsmouth Road	Below 75% of AQO	0	Negligible
R33	Residential - Portsmouth Road	Below 75% of AQO	0	Negligible
R34	Residential - Hampton Court Way	Below 75% of AQO	0	Negligible
R35	Education Facility - Weston Green	Below 75% of AQO	0	Negligible
R36	Residential - Hampton Court Way	Below 75% of AQO	0	Negligible

2.6.14 As indicated in Table 4, impacts on annual mean NO_2 concentrations as a result of the proposed development were predicted to be **negligible** at all receptors.

2.6.15 Predicted impacts on annual mean PM_{10} concentrations at the sensitive receptor locations are summarised in Table 5.

Table 5 Predicted Impacts - PM_{10}

Receptor		Predicted Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R1	Residential - Station Road	Below 75% of AQO	0	Negligible
R2	Residential - Lower Green Road	Below 75% of AQO	0	Negligible
R3	Residential - More Lane	Below 75% of AQO	0	Negligible
R4	Residential - Esher Green	Below 75% of AQO	0	Negligible
R5	Residential - Lammas Lane	Below 75% of AQO	0	Negligible
R6	Residential - Lammas Lane	Below 75% of AQO	0	Negligible
R7	Hospice - Lammas Lane	Below 75% of AQO	0	Negligible
R8	Residential - Portsmouth Road South	Below 75% of AQO	0	Negligible
R9	Residential - Portsmouth Road South	Below 75% of AQO	0	Negligible

Receptor		Predicted Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R10	Residential - Claremont Lane	Below 75% of AQO	0	Negligible
R11	Residential - Station Road	Below 75% of AQO	0	Negligible
R12	Residential - Ember Lane	Below 75% of AQO	0	Negligible
R13	Residential - Kingston Bypass	Below 75% of AQO	0	Negligible
R14	Residential - Kingston Bypass	Below 75% of AQO	0	Negligible
R15	Residential - Portsmouth Road North	Below 75% of AQO	0	Negligible
R16	Residential - Portsmouth Road North	Below 75% of AQO	0	Negligible
R17	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R18	Residential - First Floor Church Street	Below 75% of AQO	0	Negligible
R19	Residential - Church Street	Below 75% of AQO	0	Negligible
R20	Residential - Church Street	Below 75% of AQO	0	Negligible
R21	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R22	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R23	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R24	Residential - First Floor High Street	Below 75% of AQO	0	Negligible
R25	Residential - High Street	Below 75% of AQO	0	Negligible
R26	Residential - Portsmouth Road	Below 75% of AQO	0	Negligible
R27	Residential - First Floor Portsmouth Road	Below 75% of AQO	0	Negligible
R28	Residential - First Floor Portsmouth Road	Below 75% of AQO	0	Negligible
R29	Residential - Lammas Lane	Below 75% of AQO	0	Negligible
R30	Residential - Portsmouth Road First Floor	Below 75% of AQO	0	Negligible
R31	Residential - Portsmouth Road First Floor	Below 75% of AQO	0	Negligible
R32	Residential - Portsmouth Road	Below 75% of AQO	0	Negligible

Receptor		Predicted Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R33	Residential - Portsmouth Road	Below 75% of AQO	0	Negligible
R34	Residential - Hampton Court Way	Below 75% of AQO	0	Negligible
R35	Education Facility - Weston Green	Below 75% of AQO	0	Negligible
R36	Residential - Hampton Court Way	Below 75% of AQO	0	Negligible

2.6.16 As indicated in Table 5, impacts on annual mean PM_{10} concentrations as a result of the proposed development were predicted to be **negligible** at all receptors.

3.0 CONSEQUENCES OF THE PROPOSAL AND UK REGULATIONS

3.1 Proposal

3.1.1 The results of the Air Quality Assessment (Core Document CD.5.43 and CD5.48) indicated that impacts from road vehicle exhaust emissions associated with the development were predicted to be **negligible** and therefore **not significant**. As such, mitigation to reduce effects further is not considered necessary. Nevertheless, the proposals include a number of initiatives that are likely to promote non-motorised modes of transport within the vicinity of the site. These include the following:

- Widening of Lower Green Road and provision of on-street parking bays - This is will allow cars to be parked on the carriageway and to prevent vehicles blocking the footway. At present cars currently park partly on the pavement restricting the route for pedestrians. This would make it easier for pedestrians to use the existing footpath including for journeys to and from Esher Station;
- Improvements to local bus stops on More Lane, Esher Green and Portsmouth Road - This will include real time passenger information, access for all compatible kerbing, shelters, lighting and power. In addition to providing a safer and more comfortable location for bus passengers this will also improve the pedestrian environment on Portsmouth Road;
- Pedestrian crossing on Portsmouth Road - This will make it easier for residents who live on the southern side of Portsmouth Road to cross to the northern side to access the Station and the Racecourse;
- New pedestrian crossing at Esher Station - This will significantly improve the safety of pedestrians accessing the Station and encourage walking between the Station, Racecourse and Esher town centre;
- Pedestrian signage - This will improve the legibility of the route for pedestrians between the Station, Racecourse and town centre;
- Overlooking and security - Consideration of natural surveillance and openness during development layout and design to improve security for pedestrians and make them feel more comfortable using the route;
- Improved drainage at the corner of Portsmouth Road and Station Road - This will reduce impacts on the pedestrian route following heavy rain; and,
- Improvements to the footway surface.

3.1.2 The measures will encourage walking and public transport use, reducing the number of trips taken by the private car in the vicinity of the site. This would have an associated reduction in vehicle emissions and, although likely to be not significant, would be a beneficial impact on local pollution levels. It should be noted that these measures will encourage a modal shift by all users seeking to use these roads and not just those who would live in the proposed dwellings.

3.2 UK Regulations and Policy

3.2.1 Local air quality within the UK is predicted to improve in the future through the adoption of stricter vehicle emission standards, as well as wider policies on industrial emissions, promotion of electric vehicle uptake and renewable energy generation. These include the latest Government initiative to ban new sales of petrol and diesel cars from 2035.

3.2.2 On a local and regional scale, schemes such as the London Low Emission Zone (LEZ) and subsequent Ultra Low Emissions Zone (ULEZ), as well as Clean Air Zones (CAZs) in other cities, are also driving vehicle fleet change towards lower emission options.

3.2.3 A robust approach to future year air quality conditions was adopted throughout the Air Quality Assessment. This included use of the 'Calculator Using Realistic Emissions for Diesels' produced by Air Quality Consultants Ltd to predict future year NO_x emission factors and NO_2 background concentrations. This methodology has been formulated to simulate failure of Euro 6d to provide any benefits over and above those of Euro6c, providing a more pessimistic view of the performance of post-2019 diesel cars and vans. It should be noted that the use of the approved emission factors and background levels produced by DEFRA and utilised by the UK Government would have resulted in lower concentrations throughout the assessment.

4.0 CONSULTATION RESPONSES AND COMMITTEE REPORT

4.1 Environmental Services

4.1.1 Following submission of the planning application, a consultation response was received from EBC Environmental Services dated 25th April 2019. This references the Environmental Statement produced by Rapleys, which included the Air Quality EIA Chapter, and does not identify any areas of disagreement or concern with the methodology or results. As such, no objection to the development was provided.

4.2 Case Officer's Report for the Planning Committee

4.2.1 The Case Officer's report for the Planning Committee summarises the Air Quality EIA Chapter of the Environmental Statement produced by Rapleys and does not identify any areas of disagreement or concern with the methodology or results. The report concludes:

> "Conclusion on the potential impacts on air quality, noise and light pollution, and Contamination
>
> 9.8.7.16 Following the review of the information submitted and based on the information available to the Council's EHO, it was concluded that subject to a compliance with the suggested conditions, the proposed development would be able to mitigate for any potential detrimental impacts of pollution."

4.2.2 Based on the above, it is considered that the planning officer did not identify any reason to refuse or criticise the proposed development on air quality grounds. It should be noted that three conditions relating to air quality were recommended for attachment to any planning consent. These were deemed to be acceptable by the applicant, though not required based on the results of the Air Quality Assessment.

4.3 Third Party Representations

4.3.1 It is understood from the Case Officer's report for the Planning Committee that a number of objection letters were received relating to the proposals. These included concerns over the impact of pollution (air quality) associated with the development. None of these were based on empirical evidence or expert opinion.

4.3.2 As shown throughout the original Air Quality Assessment and this Statement of Case, air quality impacts associated with the proposed development are predicted to be **not significant**, in accordance with the relevant IAQM guidance.

5.0 REASON FOR REFUSAL

5.1 Introduction

5.1.1 The proposals are considered to comply with all relevant national and local planning policies in relation to air quality. This is discussed further in the following Sections.

5.2 National Planning Policy

5.2.1 As stated previously, the NPPF[18] (Core Document CD2.1) includes considerations which are relevant to the reason for refusal in paragraphs 170 and 181.

5.2.2 There are no exceedances of the relevant AQOs and AQLVs as defined in current UK air quality legislation. As shown throughout this Statement of Case and the Air Quality Assessment (Core Document CD.5.43 and CD5.48), predicted pollution levels are below the legal limits at all positions of relevant residential exposure on the development site. As such, it is considered the proposals comply with paragraph 170 of the NPPF (Core Document CD2.1) concerning air quality.

5.2.3 In relation to NPPF paragraph 181:

- Annual mean NO_2 and PM_{10} concentrations were predicted to comply with the relevant AQOs and AQLVs at all sensitive receptor locations, including those within the AQMA, during the development opening year;
- Cumulative traffic generation associated with other committed developments was included in the assessment;
- As outlined in Section 3.0 of this Statement of Case, opportunities to improve air quality through traffic and travel management have been included within the proposals; and,
- Although the development is not located in an AQMA, the proposals are consistent with the relevant Air Quality Action Plan[19] (Core Document CD3.31).

[18] NPPF, Ministry of Housing, Communities and Local Government, 2019.

[19] Air Quality Action Plan For Elmbridge Borough Council, EBC, 2011.

5.2.4 Based on the above, it is considered the proposals comply with paragraph 181 of the NPPF (Core Document CD2.1) in regards air quality. They therefore comply with NPPF and relevant legislation.

5.3 Local Planning Policy

5.3.1 As stated previously, the Elmbridge Development Management Plan[20] (Core Document CD1.2) includes policy DM5 - Pollution highlighted by EBC as a reason for refusal.

5.3.2 A detailed specialist report, in the form of the Air Quality EIA Chapter (Core Document CD5.43), was submitted in support of the application. This set out the impact that the proposed development is predicted to have upon air quality. The results of the assessment indicated that impacts were predicted to be **not significant**, in accordance with the relevant industry guidance produced by the IAQM[21] [22] (Core Document CD3.28 CD3.29). Additionally, predicted pollutant concentrations were below the relevant health based standards at all locations of future residential occupancy across the site. Therefore, the proposals comply with the relevant policy of the Elmbridge Development Management Plan[23] (Core Document CD1.2) in regards air quality.

20 Elmbridge Development Management Plan, EBC, 2015.

21 Guidance on the Assessment of Dust from Demolition and Construction V1.1, IAQM, 2016.

22 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

23 Elmbridge Development Management Plan, EBC, 2015.

6.0 SUMMARY AND CONCLUSION

6.1.1 The air quality considerations surrounding the application can be summarised as follows:

- Planning consent for the development was refused on a number of grounds, including one reason relating partly to air quality;
- No technical basis was provided to support the refusal of consent on air quality grounds;
- Relevant air quality issues were considered through an Air Quality Assessment, undertaken Redmore Environmental, as summarised in the Air Quality EIA Chapter incorporated in the overarching Environmental Statement produced by Rapleys in support of the development;
- Air quality impacts associated with fugitive dust emissions during construction of the development were assessed using the IAQM guidance[24] (Core Document CD3.28). This indicated that residual impacts following implementation of the specified mitigation measures as part of the CEMP were predicted to be **not significant**;
- Air quality impacts associated with road vehicle exhaust emissions during construction of the development were assessed using the IAQM guidance[25] (Core Document CD3.29). This indicated that residual impacts following implementation of the specified mitigation measures as part of the CEMP were predicted to be **not significant**;
- Air quality impacts associated with road vehicle exhaust emissions during operation of the development were predicted using dispersion modelling and the significance assessed using the IAQM guidance[26] (Core Document CD3.29). The results indicated that impacts on annual mean NO_2 and PM_{10} concentrations were predicted to be **negligible** at all receptor locations. As a result, the overall significance of effect was determined as **not significant**;
- The dispersion modelling results also indicated that predicted annual mean NO_2 concentrations were below the relevant AQO at all locations of future residential occupancy across the proposed site;
- The proposals were shown to be fully compliant with the NPPF (Core Document CD2.1), specifically paragraphs 170 and 181;

[24] Guidance on the Assessment of Dust from Demolition and Construction V1.1, IAQM, 2016.

[25] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

[26] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

- The proposals were shown to be fully compliant with the Elmbridge Development Management Plan, specifically policy DM5 - Pollution; and,
- No objections were made to the development by EBC Environmental Services on air quality grounds.

6.1.2 As shown throughout the Air Quality Assessment summarised in the Environmental Statement (Core Document CD5.43 and CD5.48) and further within this Statement of Case, air quality impacts associated with the proposed development were predicted to **be not significant** in accordance with the relevant best practice guidance[27] [28] (Core Document CD3.28 CD3.29). No evidence has been provided by EBC to disprove these results. As such, impacts of the development are considered acceptable and fully in accordance with current legislative and planning policy requirements.

[27] Guidance on the Assessment of Dust from Demolition and Construction V1.1, IAQM, 2016.

[28] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

7.0 ABBREVIATIONS

AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
CEMP	Construction Environmental Management Plan
DEFRA	Department for Environment, Food and Rural Affairs
DM	Do-minimum
DS	Do-something
EBC	Elmbridge Borough Council
EIA	Environmental Impact Assessment
EU	European Union
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
NO	Nitric oxide
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
NPPF	National Planning Policy Framework
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10µm

Figures

Legend

Masterplan Boundary

AQMA

Annual Mean NO_2 Concentration ($\mu g/m^3$)

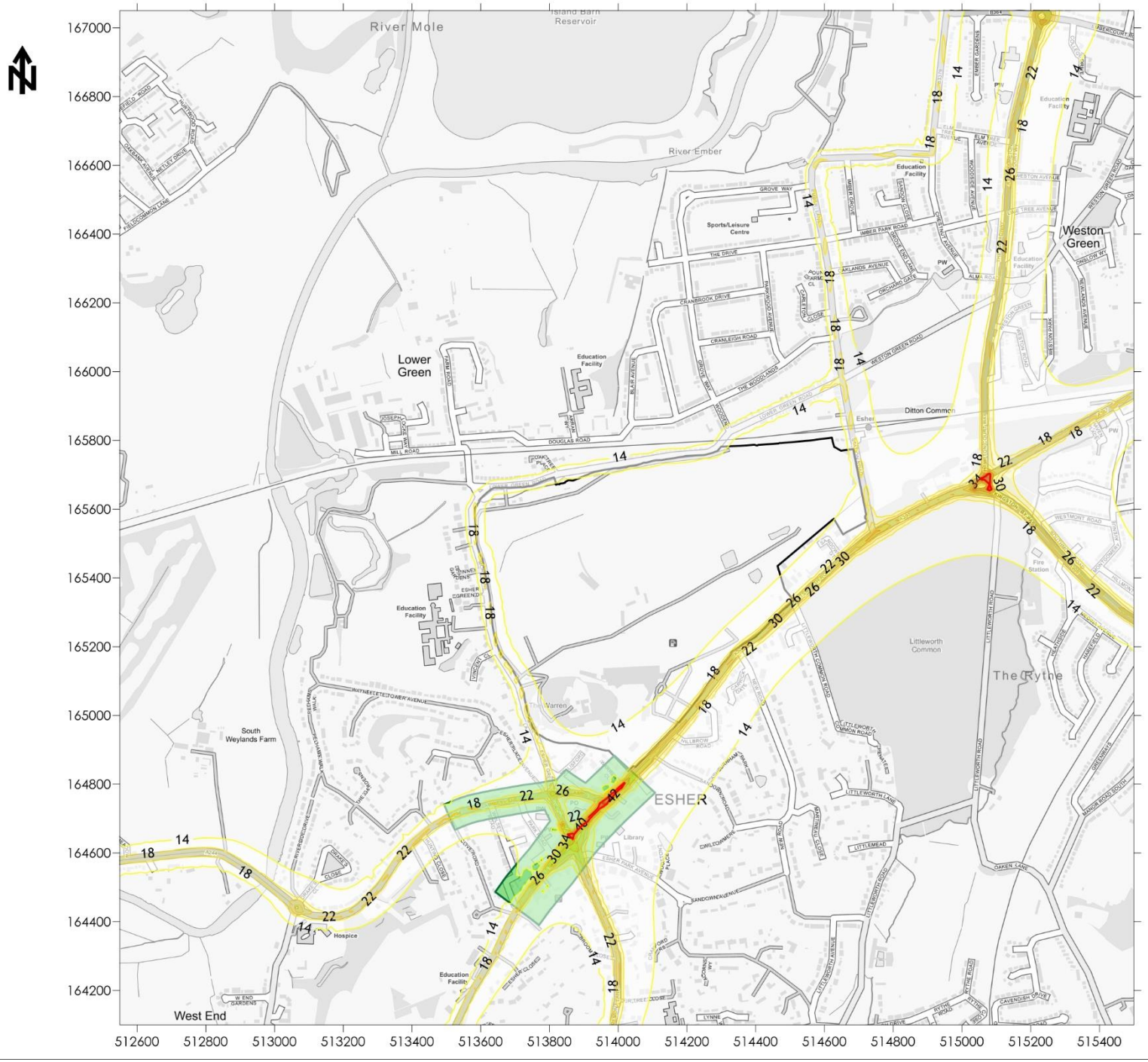
50
46
42
40
38
34
30
26
22
18
14

Title

Figure 1: Predicted Annual Mean NO_2 Concentrations ($\mu g/m^3$) Do-Minimum

Project

Sandown Park Racecourse, Esher



Legend

Masterplan Boundary

AQMA

Annual Mean NO_2 Concentration ($\mu g/m^3$)

50
46
42
40
38
34
30
26
22
18
14

Title

Figure 2: Predicted Annual Mean NO_2 Concentrations ($\mu g/m^3$) Do-Something

Project

Sandown Park Racecourse, Esher

Appendix 1 - Land-Use Planning & Development Control: Planning For Air Quality (Core Document CD3.29) Extract

environmental protection uk

IAQM Institute of Air Quality Management

Land-Use Planning & Development Control: Planning For Air Quality

Guidance from Environmental Protection UK and the Institute of Air Quality Management for the consideration of air quality within the land-use planning and development control processes.

January 2017

www.environmental-protection.org.uk www.iaqm.co.uk

Contents

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Environmental Protection UK: Environmental Protection UK is a national charity that provides expert policy analysis and advice on air quality, land quality, waste and noise and their effects on people and communities in terms of a wide range of issues including public health, planning, transport, energy and climate. Membership of Environmental Protection UK is drawn from local authorities, industry, consultancies and individuals who are practicing professionals in their field, or have an interest in the environment.

The Institute of Air Quality Management (IAQM): IAQM aims to be the authoritative voice for air quality by maintaining, enhancing and promoting the highest standards of working practices in the field and for the professional development of those who undertake this work. Membership of IAQM is mainly drawn from practising air quality professionals working within the fields of air quality science, air quality assessment and air quality management.

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7. Assessing Significance

7.1 Impacts on air quality, whether adverse or beneficial, will have an effect on human health that can be judged as 'significant' or 'not significant'. This is the primary requirement of the EIA regulations, but is also relevant to other air quality assessments. It is important to distinguish between the meaning of 'impact' and 'effect' in this context. An impact is the change in the concentration of an air pollutant, as experienced by a receptor. This may have an effect on the health of a human receptor, depending on the severity of the impact and other factors that may need to be taken into account. Judging the severity of an impact is generally easier than judging the significance of an effect.

7.2 The significance of effect that any proposed development might have will also be judged at two separate stages of the development control process, as follows:

- the first is within the air quality report accompanying the planning application; while
- the second is when the local authority's air quality specialist makes his/her recommendations to the planning officer.

7.3 These are mutually exclusive requirements serving different purposes. Ultimately, any disputes on these matters are dealt with by the judgement of the planning committee and/or a planning inspector following a planning appeal. A significant air quality effect is not, of itself, a reason for refusal of a planning application; that decision will be the outcome of a careful consideration of a number of factors by a planning committee (or a planning inspector/Secretary of State), air quality being just one of the factors.

7.4 The assessment framework for describing impacts can be used as a starting point to make a judgement on significance of effect, but there will be other influences that might need to be accounted for. The impact descriptors set out in **Table 6.3** are not, of themselves, a clear and unambiguous guide to reaching a conclusion on significance. These impact descriptors are intended for application at a series of individual receptors. Whilst it may be that there are 'slight', 'moderate' or 'substantial' impacts at one or more receptors, the overall effect may not necessarily be judged as being significant in some circumstances.

7.5 One of the relevant factors in the judgement of the overall significance of effect may relate to the potential for cumulative impacts and, in such circumstances, several impacts that are described as 'slight' individually could, taken together, be regarded as having a significant effect for the purposes of air quality management in an area, especially where it is proving difficult to reduce concentrations of a pollutant. Conversely, a 'moderate' or 'substantial' impact may not have a significant effect if it is confined to a very small area and where it is not obviously the cause of harm to human health.

7.6 Often, it is possible to be very clear when an impact is sufficiently slight that it has no effect on receptors and can therefore be described unequivocally as 'not significant'[34]. In the opposite case, when an impact is clearly substantial, it will be obvious that there is potential for a significant effect. The problem lies in the intermediate region where there is likely to be uncertainty on the transition from insignificant to significant. In those circumstances where a single development can be judged in isolation, it is likely that a 'moderate' or 'substantial' impact will give rise to a significant effect and a 'negligible' or 'slight' impact will not have a significant effect, but such judgements are always more likely to be valid at the two extremes of impact severity.

7.7 Any judgement on the overall significance of effect of a development will need to take into account such factors as:

- the existing and future air quality in the absence of the development;
- the extent of current and future population exposure to the impacts; and
- the influence and validity of any assumptions adopted when undertaking the prediction of impacts.

Other factors may be relevant in individual cases.

7.8 The population exposure in many assessments will be evaluated by describing the impacts at individual receptors. Often, these will be chosen to represent groups of residential properties, for example, and the assessor will need to consider the approximate number of people exposed to impacts in the various different categories of severity, in order to reach a conclusion on the significance of effect. An individual property exposed to a moderately adverse impact might not be considered a significant effect, but many hundreds of properties exposed to a slight adverse impact could be. Such judgements will need to be made taking into account multiple factors and this guidance avoids the use of prescriptive approaches.

7.9 A judgement of the significance should be made by a competent professional who is suitably qualified. The reasons for reaching the conclusions should be transparent and set out logically. Whilst the starting point for the assessment of significance is the degree of impact, as defined by **Table 6.3**, this should be seen as one of the factors for consideration, not least because the outcome of this assessment procedure applies to a receptor and not the overall impact.