6.2 Air Quality

6.2.1 Chapter 7 of the 2022 ES reported the likely significant effects of the development on existing receptors during the construction and operational phase without mitigation, with no likely residual significant effects following implementation of mitigation measures such as a construction environmental management plan.

6.2.2 This Chapter has been prepared in order to outline the key changes within the Section 73 application (S73), in relation to the Detailed Element of the 2023 Consent (Plots N3-E, N4, and N5) and to identify changes to the findings and conclusions associated with the 2022 ES.

Legislation, Planning Policy and Guidance

6.2.3 A review of UK legislation, planning policy and guidance relevant to the proposals has been previously undertaken as part of the 2022 ES. Since the submission of the 2022 ES the following legislation, policy and guidance has been updated and have been used to inform this ES addendum:

- National Planning Policy Framework, 2024[1];
- Defra's Local Air Quality Management Technical Guidance, 2022[2],
- The IAQM 'Guidance on the assessment of dust from demolition and construction', 2024[3];
- The Air Quality Neutral London Plan Guidance, 2023[4]; and
- Environment Act 2021[5]: updated particulate matter $PM_{2.5}$ air quality objectives that were published in 2023. These include an annual mean target of 10 µg/m^3 to be achieved by 31st December 2040. In addition, the Environmental Improvement Plan 2023 details an annual mean interim target of 12 µg/m^3 to be achieved by 31st January 2028.

6.2.4 There have been no changes to London Borough of Camden (LBC) current local policy and guidance since the 2022 ES. However, LBC is in process of updating the Local Plan[6]. The emerging Camden Local Plan is currently it its consultation stage. At this stage in the plan preparation process, the draft Local Plan policies carry limited weight. However, these will start to carry more weight as the plan moves towards adoption and so have been considered within the application documentation.

6.2.5 The following policies within the draft local plan are relevant to air quality

- Policy DS1: Delivering Healthy and Sustainable Development
- Policy CC3: Circular Economy and Reduction of Waste
- Policy A1: Protecting amenity
- Policy A3: Air Quality
- Policy T1: Safe, Healthy and Sustainable Transport
- Policy T2: Prioritising Walking, Wheeling, and Cycling

Scheme Changes

6.2.6 The Proposed Development involves adjustments to the height, massing and footprints of the buildings; the replacement of Block N4D with a two-storey community centre; new landscaping and additional public realm; revisions to architecture; and revisions to unit mix and internal layouts. Overall, there is an increase in floorspace of 5,766 sqm (GIA) for the Detailed Element compared with the 2023 Consent, an increase of 43 residential units, an increase in the size of the community centre and a slight reduction in commercial floorspace (-8sqm GIA). The affordable housing provision remains the same at 36% of floor area (GIA).

6.2.7 While there is an increase in the floorspace proposed in the Detailed Element, there is a corresponding reduction in floorspace in the Outline Elements such that overall, there is no change proposed to the total floorspace permitted for the O2 Masterplan as a whole, apart from an 8sqm (GIA) reduction in commercial floorspace from the Detailed Element.

Assessment Methodology and Significance Criteria

6.2.8 The following section outlines the methodologies applied to identify and assess the potential impacts and likely effects to result from the changes to the 2023 Consent within the Proposed Development. Assessments in this ES addendum largely follow the original methodology detailed in the 2022 ES. The main changes required to the methodology, is the update to the construction assessment in line with the latest guidance[3] and updated 2023 baseline year, the latest available monitoring data. Assessment methodology for operational impacts remain the same as the 2022 ES.

6.2.9 The following potential effects have been considered within this ES addendum as a result of the changes associated with the Proposed Development:

- Demolition and construction dust on nearby existing receptors following updated assessment guidance;
- Changes in demolition and construction traffic at existing and proposed receptors;
- Changes in Road traffic emissions from operational traffic at existing offsite receptors; and
- Existing air quality at the Site for future proposed receptors.

Extent of The Study Area

6.2.10 The extent of the study area is confined to the 2023 Consent; any roads within 250 m of the 2023 Consent site; any sensitive receptors within 250 m of the site boundary or within 50 m of the sites haul routes up to 250 m from the site entrance; and any roads on which the 2023 Consent will lead to an increase in traffic movements of 100 AADT light vehicle movements or 25 AADT heavy vehicle movements, and any sensitive receptors on such roads. This remains the same as detailed within the 2022 ES.

Method of Baseline Collection

6.2.11 The 2022 ES referred to the most recently published Air Quality Annual Status Report (2021)[7], at the time of writing, to establish baseline conditions. Since the 2022 ES, further reports[8] have been published including the 2023 air quality monitoring result. A review of baseline since the 2022 ES has been undertaken and changes to reflect the last baseline conditions are outlined within this section. Since the 2022 ES, LBC has undertaken further diffusion tube monitoring in 2023, alongside site specific onsite monitoring. Figure 6.2.1 shows the monitoring locations within 1.5km of the 2023 Consent.

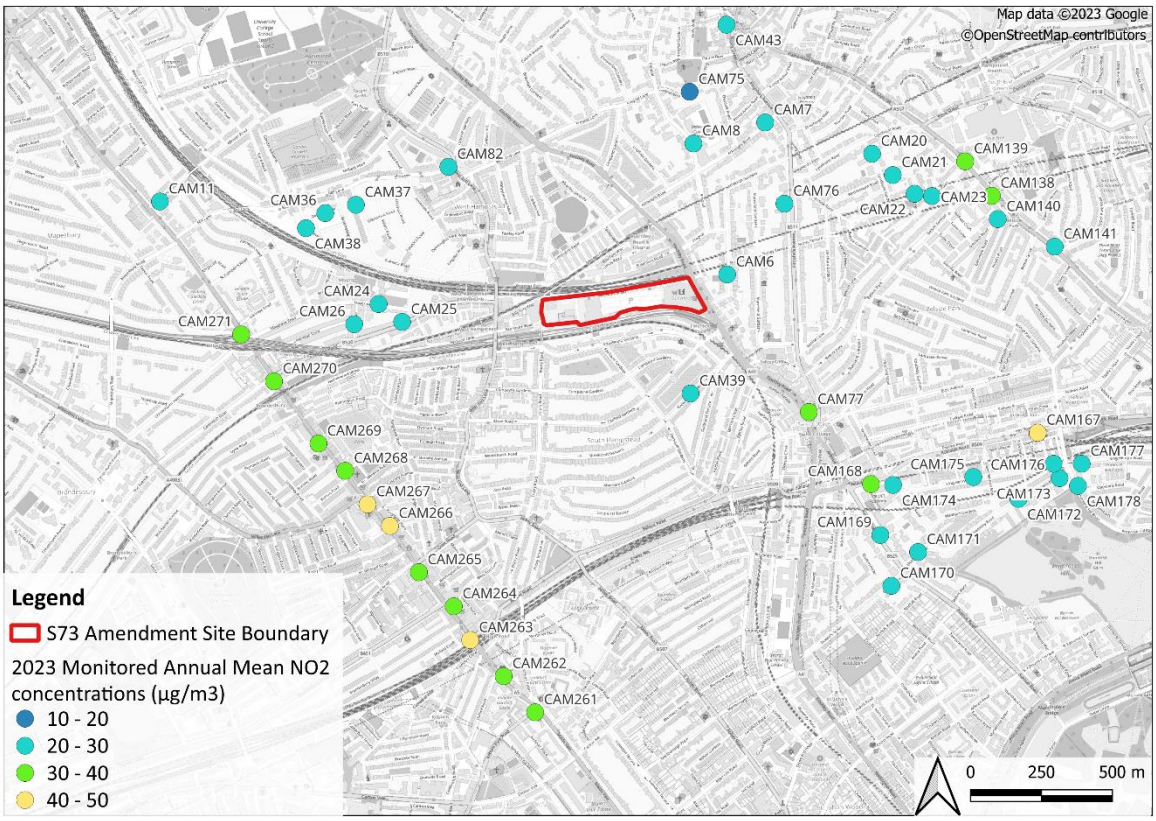

Figure 6.2.1: LBC 2023 Annual Mean NO_2 monitoring locations within 1.5km of the Approved scheme.

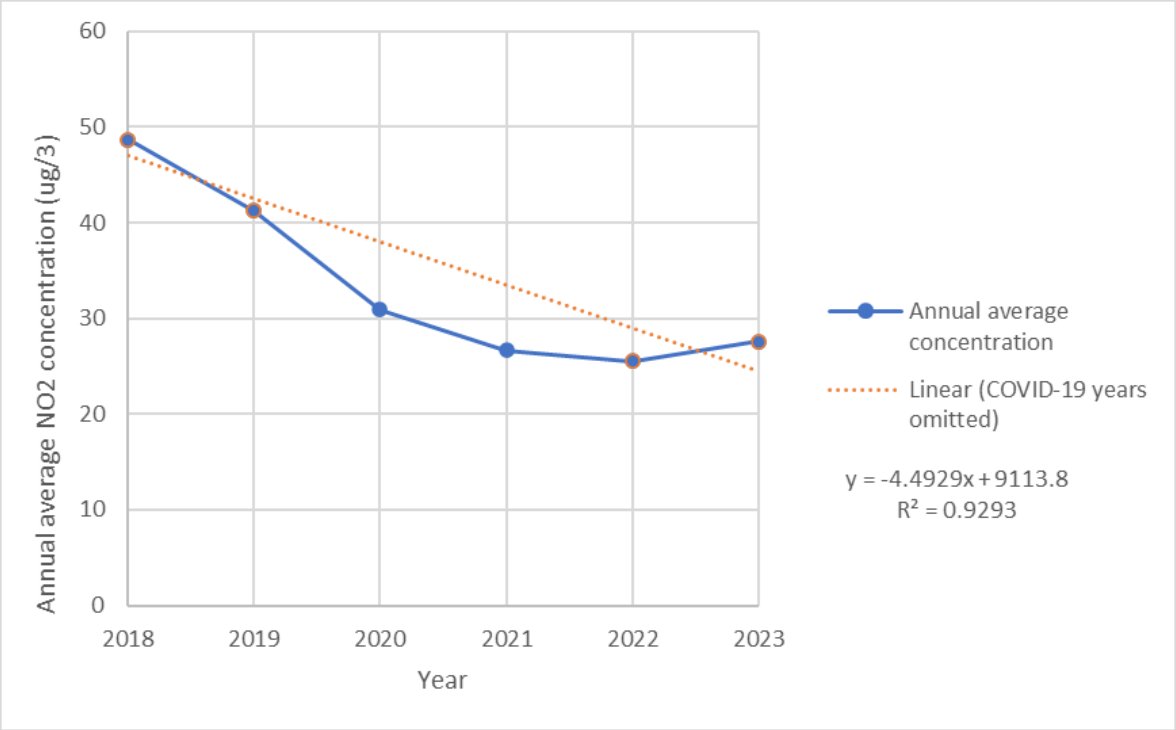

Figure 6.2.2 Linear regression analysis for all monitoring locations in LBC's administrative area

6.2.12 There has been an overall downward trend in concentrations and all concentrations remain below the annual mean NO_2 objective in the 2023, the most recent year of data available for review. This trend is considered statistically significant and is shown in Figure 6.2.2.

6.2.13 Furthermore, LBC automatic $PM_{2.5}$ monitoring for 2023 has recorded reduced concentrations of fine particulate matter at all four monitoring sites when compared to the previous year and fall below or meet the WHO guidelines of 10 µg/m^3.

6.2.14 It is considered that the 2019 concentrations within the 2022 ES remain a worst case and therefore relevant baseline.

6.2.15 Site specific onsite air quality monitoring was undertaken by Hoare Lea from September 2022 to March 2023 (ref.REP-3422057-BT-20230419-O2 Finchley Road Dust Monitoring.pdf), which indicated that the 2022 annualised $PM_{2.5}$ concentration at the site was 8.3 µg/m^3 and 8.8 µg/m^3 respectively, and therefore did not exceed with the WHO guidelines. This is outlined within **Appendix 6.2.1.**

Defra Predicted Concentrations

6.2.16 A review of the Defra background concentrations for the grid square x 525500 y 184500 and x 526500 y 184500 in which the 2023 Consent is located, has been undertaken for the 2019, 2023, the baseline years and 2027, the earliest future operational year and are shown in Table 6.2.1.

Table 6.2.1: Defra predicted background concentrations at the 2023 Consent

Year	Predicted Background Concentration (µg/m3)		
	NO2	PM10	PM2.5
X: 525500; Y: 184500			
2019	26.0	18.0	11.7
2023	20.3	15.6	8.9
2027	17.6	15.4	8.6
X: 526500; Y: 184500			
2019	30.3	19.2	12.3
2023	21.8	16.7	9.1
2027	19.1	16.6	8.8

6.2.17 The baseline assessment undertaken using 2019 background concentrations within the 2022 ES remains a worst case and is therefore still relevant.

LAEI Pollution Maps

6.2.18 Since the submission of the 2022 ES, the GLA have produce updated annual mean concentration maps for the whole of London on a 20 m by 20 m grid for a historic year (2019) and future years (2025) based on the baseline year of 2019. A review of LAEI concentrations show an overall decrease in concentrations across London and at the 2023 Consent since the submission of the 2022 ES.

Method of Assessment

Demolition & Construction Phase

6.2.19 Since completing the preparation of the 2022 ES, an update to the Guidance on Assessment of Dust from Demolition and Construction has been issued by the Institute of Air Quality Management (IAQM)[3]. The main changes from the previous methodology are the definitions of dust emission magnitude for construction activities, following a change in the area/volume range criteria for each construction activity. A review of the construction phase as a result of the S73 amendments is undertaken within Section 0.

Operational Phase

6.2.20 The methodology outlined within the 2022 ES for operational phase dispersion modelling remains unchanged.

Significance Criteria

6.2.21 The significance criteria for construction and operational phases outlined within the 2022 ES remains unchanged, with the following update criteria for construction phase.

Consultation

6.2.22 There has been no additional consultation undertaken with LBC for this ES addendum.

Assessment of Effects, Mitigation and Residual Effects

Demolition & Construction Phase

6.2.23 This section identifies and assesses the scale and nature of the main effects arising from the S73 amendments to the 2023 Consent and the during the construction phase.

Construction Dust Risk Assessment

6.2.24 According to the updated 2024 IAQM construction dust guidance[3], there have been updates to the magnitudes of impacts and risk criteria for the 2023 Consent.

6.2.25 In addition, under the S73 amendments for the Detailed Element, there is an increase in floorspace of 5,766 m^2 when compared with the 2023 Consent. However, while there is an increase in the floorspace proposed in the Detailed Element, there is no change proposed to the total floorspace permitted for the O2 Masterplan as a whole, except for a reduction in the maximum residential floor area proposed and an 8sqm (GIA) reduction in commercial floorspace from the Detailed Element.

6.2.26 The 2022 ES identified the on-site activities and trackout magnitudes to be large, with a medium to high risk of dust impacts for demolition, earthworks, construction and trackout activities. Due to the updates in guidance the magnitude classifications have been changed. The changes in magnitude for the 2023 Consent are outlined within Table 6.2.2.

Table 6.2.2: 2023 Consent updates of predicted to magnitude of dust emissions following updated IAQM Guidance

Activity	Magnitudes	
	2022 ES for the Approved scheme[a]	S73 Amendments of the Detailed Element of the Approved scheme[b]
Demolition	Large	Medium
Earthworks	Large	Medium
Construction	Large	Large
Trackout	Large	Large

[a.] The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance [9]
[b.] Guidance on the assessment of dust from demolition and construction, 2024

6.2.27 As a result of the magnitudes changes the demolition and construction changes (shown in Table 6.2.2), the overall dust risk from demolition and earthworks activities changes from high risk to medium risk in line with the IAQM guidance. The sensitivity of the surrounding area to the potential construction impacts remains the same (high) as the 2022 ES.

6.2.28 As such, the assessment of construction dust within the 2022 ES remains worst case and the S73 amendments are not anticipated to lead to any significant impacts, providing the mitigation measures outlined within Appendix 7.2 of the 2022 ES are implemented to minimise dust impacts on nearby receptors. Furthermore, the phasing of the plots is unlikely to change and therefore the sensitivity of the area will have not changed from that previously considered within the 2022 ES.

Mitigation

6.2.29 Dust and particulate matter emissions produced during construction activities would be controlled through the implementation of a Construction Management Plan (CMP), as outlined within Appendix 7.2 of the 2022 ES.

Residual Effect

6.2.30 Provided measures set out in the CMP are suitably addressed there are not expected to be any residual significant effects.

Impacts from Road Traffic Emissions During Construction.

6.2.31 The 2022 ES outlined the potential air quality impacts as a result of the construction traffic emissions during the construction phase. The amendments associated with the Proposed Development are not anticipated to result in any additional traffic during the construction phase and construction vehicles associated with the main masterplan of the 2023 Consent are to access the Site via Finchley Road and Blackburn Road. This remains unchanged from the 2022 ES and the assessment undertaken within the 2022 ES remains valid.

Mitigation

6.2.32 There are not expected to be any additional adverse impacts at nearby existing receptors or future receptors associated with the Proposed Development and therefore additional mitigation is not required and the mitigation requirements within the 2022 ES remain valid.

Residual Effect

6.2.33 No mitigation is required to reduce emissions during the construction phase of the 2023 Consent and the residual effects are expected to be not significant. This remains valid for the Proposed Development.

Operational Phase

6.2.34 This section identifies and assesses the scale and nature of the air quality effects arising from the Proposed Development during the operational phase.

Operational Traffic Emissions

6.2.35 A detailed assessment of the potential impacts a result of the road emissions associated with the operational phase were screened out of the 2022 ES as traffic generated by the 2023 Consent is less than that of the existing Site uses. The Proposed Development is not anticipated to lead to any change in traffic generated when compared to the 2022 ES. It is therefore, considered that there will be no significant off-site effects from road traffic generated by the Proposed Development.

6.2.36 As such, no further assessment of operational phase traffic generated by the 2023 Consent as a result of the Proposed Development is required and the conclusions of the 2022 ES remain relevant.

Mitigation

6.2.37 There are not expected to be any additional adverse impacts at nearby existing receptors as a result of the Proposed Development and therefore mitigation is not required.

Residual Effect

6.2.38 No mitigation is required to reduce road traffic emissions during the operational phase of the 2023 Consent and the residual effects are expected to be not significant. This position remains valid for the Proposed development.

Site Suitability Assessment

6.2.39 The site suitability assessment outlined within the 2022 ES determined that predicted concentrations across the Site would fall below the relevant AQO for the three pollutants assessed in 2022, with expected exceedances of the PM2.5 WHO guideline at all receptors on all floors of the 2023 Consent, based on dispersion modelling results shown in Appendix 7.6 of the 2022 ES. Whilst there have been improvements in the LBC monitoring data and background concentrations, the 2022 ES remain a valid and worse case assessment and requires the inclusion of suitable mitigation.

Mitigation

6.2.40 No further mitigation is required as a result the Proposed Development and the mitigation measures outlined for site suitability within the 2022 ES remain relevant.

Residual Effect

6.2.41 The residual effect within this ES addendum remains unchanged from the 2022 ES submission. As such, the residual effect is expected to be **not significant.**

Severability

6.2.42 The updated severability plan shows the extent of the severable area within Plot S8 within the Outline Element West. It is the applicants' firm intention to deliver this plot in accordance with the approved parameter plans through the submission of reserved matters pursuant to the hybrid planning permission. This will maximise the public benefits that will result from the development. However, it is recognised that an extant planning permission (ref PWX0202103), together with an extant section 73 permission (ref. 2023/1292/P) (collectively the "Builder's Merchant Scheme"), exist in relation to this part of the Site, and as a consequence this area has been identified as severable. In order to ensure a robust approach, an assessment has been made of the environmental impacts that would potentially arise in the event that the Builder's Merchant Scheme is brought forward under those existing extant planning permissions rather than pursuant to reserved matters under the O2 masterplan development.

6.2.43 The Builder's Merchant Scheme has the potential to impact sensitive receptor locations differently to the development proposed under the O2 Masterplan during both the construction and operational phases The potential impacts in respect of the brining forward of the Builder's Merchant Scheme are outlined in these sections

Construction Phase

Construction Dust Risk Assessment

6.2.44 Where the Builder's Merchant Scheme is completed prior to the construction of the remainder of the O2 Masterplan, it could introduce medium sensitivity receptors (1-10 commercial) within 20 m of the O2 Masterplan site boundary. Accounting for the changes in the IAQM guidance criteria detailed within Section 0 and the severability of the relevant area of Plot S8, the magnitude and risk of dust impacts of the construction on air quality is likely to be less or equal to that predicted for the main masterplan as detailed within the 2022 ES. Providing that the mitigation measures detailed within Appendix 7.2 of the 2022 ES are implemented within a suitable Construction Environmental Management Plan (CEMP), the overall air quality impacts on the sensitive receptors within the Builder's Merchant Scheme from construction of the remainder of the O2 Masterplan is predicted to be **not significant.**

6.2.45 Where the Builders Merchant Scheme comes forward in combination with the remainder of the O2 Masterplan there is potential for cumulative effects to occur during the construction phase. In such a scenario, it is expected that the appropriate mitigation measures for the Builders Yard Scheme and O2 Masterplan are to be incorporated within respectively CEMPS to reduce the predicted dust risk to negligible. Assuming the implementation of relevant mitigation measures, the overall cumulative air quality impacts is predicted to be **not significant.**

Impacts from Road Traffic Emissions During Construction.

6.2.46 Where the Builders Merchant Scheme is to be progressed, construction vehicles associated with the O2 Masterplan is likely to be reduced by the removal of the development of the severed part of Plot S8.

6.2.47 The total number of construction vehicles associated with the Builders' Merchant Scheme is currently unknown, however construction vehicles associated with the development of the Builder's Merchant Scheme would access via the west end of Blackburn Road, via West End Lane, and therefore emissions associated with the construction vehicles from the development of the Builder's Merchant Scheme are not likely to impact sensitive receptors associated with parts of the O2 Masterplan which had already been developed, or with those assessed in respect of the construction vehicle traffic from the O2 Masterplan development.

6.2.48 Similarly, as the construction vehicles associated with the O2 Masterplan development are to access the Site via Finchley Road and Blackburn Road, the associated construction emissions are not likely to impact the potential sensitive receptors associated with the Builder's Merchant Scheme.

6.2.49 In the event that the O2 Masterplan and Builders Merchant Scheme are progressed concurrently, it is not considered that there would be any significant cumulative air quality impacts on nearby existing sensitive receptors, due the site access and routing options for both developments. Additionally. construction vehicles movements associated the Builders Yard Scheme and O2 Masterplan are likely to be controlled within a CEMP or Construction Traffic Management Plan (CTMP). Additionally, the duration of movements will be short-term and temporary in nature as outlined within the IAQM guidance.

6.2.50 The appropriate mitigations measures for the O2 Masterplan during construction phase to minimise the impact of the construction phase was detailed within the 2022 ES and remain unchanged.

6.2.51 As such, the conclusions of the 2022 ES from the 2023 Consent remain valid, and no further assessment is required.

Operational Phase

6.2.52 The traffic associated with the Builder's Merchant Scheme indicates that the completed operation is to generate a total of 133 two-way vehicular trips. The additional office elements within this development are to be 'car free' as outlined within the transport assessment undertaken by Velocity Transport and submitted as part of the planning application. Traffic including all servicing and delivery vehicles are to access the site for the Builder's Merchant Scheme along Blackburn Road via West End Lane and are therefore not anticipated to cause significant impact to the 2023 Consent within the main masterplan, or the Proposed Development.

6.2.53 As outlined within the 2022 ES, it is anticipated that there will be a reduction in traffic as a result of the 2023 Consent being brought forward when compared to the existing baseline. Furthermore, additional traffic associated with the O2 Masterplan is to access the site via Finchley Road and Blackburn Road and is not anticipated to cause any significant impact on the Builder's Merchant Scheme. It is considered that where taking account of the severance of the relevant part of Plot S8, the Proposed Development leads to a further reduction in total AADT for the overall O2 Masterplan of approximately 69 AADT, when compared to the traffic presented within the 2022 ES.

6.2.54 As such, the overall air quality impacts during the operational phase as a result of the Builder's Merchant Scheme being developed on the severed area of Plot S8 on the Proposed Development, is predicted to be not significant.

Limitation and Assumptions

6.2.55 When considering this ES Addendum, there has been no change in the limitations and assumptions outlined within 2022 ES.

Summary & Conclusions

6.2.56 An assessment of the likely significant air quality effects arising from the Proposed Development has been undertaken at existing nearby sensitive receptors during the construction phase and the future users of the Proposed Development during operation.

6.2.57 A review of local NO_2 monitoring within the study area show a downwards trend in concentrations between 2019 and 2023, with no exceedances of the annual mean NO_2, PM_{10} or $PM_{2.5}$ air quality objectives in 2019 or 2023.

6.2.58 The Proposed Development and severability of the relevant area of Plot S8 are not anticipated to lead to any significant impacts during the construction and operation phases which differ materially from the 2023 Consent. In addition, where the relevant area of Plot S8 is severed and the Builder's Merchant Scheme is developed, it is not anticipated that the remainder of the Proposed Development would lead to any significant impacts during the construction and operation phases of the Builder's Merchant Scheme.

6.2.59 As such there are no changes to the conclusions outlined within the 2022 ES and it is considered that there are no material constraints to the S73 planning application as a result of air quality.

References

[1] Department for Levelling Up, Housing and Communities, (2024) National Planning Policy Framework, Department for Levelling Up, Housing and Communities, London. Available: National Planning Policy Framework (publishing.service.gov.uk)
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