

TECHNICAL NOTE

Job Name: Former Canteen Building and Block H, Former Nestle Factory, Hayes
Job No: 332511069
Note No: 001
Date: June 2022
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Subject: Air Quality Technical Note

1. Introduction

- 1.1. Stantec UK Limited has been commissioned to carry out an air quality assessment for the Development of the former canteen building to provide a new healthcare facility (Class E(e)), nursery (Class E(f)) and reconfigured residential building (Block H) (Class C3 and Class E), including associated landscaping, access, car parking and other engineering works.

2. Planning History

- 2.1. Planning permission was initially granted for the Application Site of 28 June 2018 (ref.1331/APP/2017/1883) 1 for ‘Part demolition of existing factory buildings and associated structures, and redevelopment to provide 1,386 dwellings (Use Class C3), office, retail, community and leisure uses (Use Class A1/A3/A4/B1/B8/D1/D2), 22,663sq.m (GEA) of commercial floorspace (Use Classes B1c/B2/B8 and Data Centre (sui generis)), amenity and playspace, landscaping, allotments, access, service yards, associated car parking and other engineering works’.

- 2.2. Following this, two Section 73 (S73) applications were granted. The first (ref.1331/APP/2019/1666) for the residential land was granted on 11 September 2020. The description of development for this application as follows:

“Section 73 application to vary Condition 9 (residential condition – approved plans) of planning permission ref.1331/APP/2017/1883 dated 28/06/2018 (part demolition of existing factory building and associated structures and redevelopment to provide residential dwellings (Class C3), office, retail, community and leisure uses (Classes A1/A3/A4/B1/B8/D1/D2), commercial floorspace (Classes B1c/B2/B8 and Data Centre (sui Generis)), amenity and playspace, landscaping, allotments, access, service yards, associated car parking and other engineering works) (as amended by application ref 1331/APP/2020/50 dated 06/02/20).”

- 2.3. The second S73 application (ref.1331/APP 2021/751) was granted on 10 November 2021 for the following:

“Section 73 application seeking a variation to condition 61 (approved drawings) of planning permission ref.1331/APP/2019/1666 dated 11-09-20 (Section 73 application to vary Condition 9 (residential condition – approved plans) of planning permission ref.1331.APP/2017/1883 dated 28/06/2018 (part demolition of existing factory building and associated structures and redevelopment to provide residential dwellings (Class C3), office, retail, community and leisure uses (Classes A1/A3/A4/B1/B8/D1/D2), commercial floorspace (Classes B1c/B2/B8 and Data Centre (Sui Generis)), amenity and playspace, landscaping, allotments, access, service yards, associated car

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TECHNICAL NOTE

parking and other engineering works) (as amended by application ref.1331/APP/2020/50 dated 06/02/20)."

- 2.4. This planning permission replaces the original and became the 'operational consent'. The original planning permission included the refurbishment of the Canteen building which was connected to residential Block H by the retained colonnade. It also included flexible community uses for the Canteen building as well as 20 parking spaces.
- 2.5. A 'drop-in' application was approved (ref.1331/APP/2019/2314) in June 2021 for the "*Development of 4no. new buildings comprising residential units (in addition to those approved under planning permission ref. 1331/APP/2017/1883) a basement extension to Block B, flexible commercial uses (Class E) and associated landscaping, access, car parking and other engineering works.*" This application included Block H and contained 35 Discounted Market Sales units.
- 2.6. This technical note assesses the potential air quality impacts of the 41 residential units (i.e. six additional units) and proposed flexible uses including a healthcare centre and nursery and presents a comparison with the approved planning permission. This Technical Note should be read in conjunction with Chapter 10¹ of the 2020 ES submitted for the 'drop-in' planning application 1331/APP/2019/2314.

3. Baseline Environment

- 3.1. The existing air quality conditions at the Site (as reported in LBH Annual Status Reports²) are considered to remain as those identified within the 2020 air quality assessment, with some reduction in NO₂ concentrations apparent between 2014 and 2019. While 2020 monitoring results are available, these are not considered to be representative due to COVID-19 restrictions in place during 2020 and have therefore not been considered.

4. Construction Dust Impacts

- 4.1. The potential construction dust impacts associated with the proposed development are not considered to be significantly different to those detailed in the 2020 air quality assessment, which identified the site as 'high risk' and a range of mitigation measures will be employed to ensure effective mitigation. Therefore, the potential construction dust impacts from the proposed development are not considered to have altered to such an extent as to affect the findings of the 2020 air quality assessment.

5. Road Traffic Impacts

- 5.1. Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have published the 'Land-Use Planning and Development Control: Planning for Air Quality' guidance to ensure air quality is adequately considered in land-use planning and development³. The indicative criteria for requiring an air quality assessment include:
 - a. A change in Light Duty Vehicle (LDV) flows of more than 100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA or more than 500 AADT elsewhere.
 - b. A change in Heavy Duty Vehicle (HDV) flow of more than 25 AADT within or adjacent to an AQMA or more than 100 AADT elsewhere.

¹ [London Borough of Hillingdon - Planning](#)

² London Borough of Hillingdon (2020). London Borough of Hillingdon Air Quality Annual Status Report, 2019

³ Moorcroft and Barrowcliffe et al (2017). 'Land-use Planning & Development Control: Planning for Air Quality'. V1.2. The Institute for Air Quality Management, London

TECHNICAL NOTE

- 5.2. The above criteria outlines when an assessment may be required. If traffic from a development exceeds these levels, then it does not necessarily mean that a modelling assessment is necessary, only that air quality impacts of traffic require more detailed consideration.
- 5.3. Traffic flows generated by the proposed development have been predicted by the transport consultant (Markides Associates Ltd). Since the 'drop-in' planning application there have been no changes to car parking spaces (i.e. 20 car parking spaces). **Table 1** presents the net traffic generation on the local road network due to the increase of 6 units on the Site.

Table 1: Net Change in Vehicle Trips

Road Link	AADT
The Parkway North of Hayes Road	3
Hayes Road	2
The Parkway South of Hayes Road	3
North Hyde Road (East of North Hyde Gardens)	7
North Hyde Gardens	0
Nestles Ave East of Harold Ave	0
Harold Ave	5
Nestles Ave East of Station Road	3
North Hyde Road East of Station Road	0
Station Road North of Crowland Avenue	2
M4 west of J3	11

- 5.4. When compared to the consented proposals the change in traffic flows due to the Proposed Development is very small and the predicted concentrations in the consented air quality assessment are well below the national air quality objectives and therefore the air quality impacts are not significant. The air quality assessment undertaken for the consented proposals considered impacts on air quality to be not significant and therefore the traffic generation brought about by the increase in 6 units within Block H and flexible uses are not expected to have a significant impact on local air quality.

6. Site Suitability

- 6.1. The 2020 air quality assessment concluded that all concentrations were below the National Air Quality Objectives within the Development in 2025. The Proposed Development does not introduce receptors closer to the Nestle Avenue than those assessed in the 2020 air quality assessment and it is considered that air quality for future users of the Development is acceptable and no further mitigation measures are required.

7. Air Quality Neutral

- 7.1. The Development proposes an additional 6 residential units within Block H compared to the extant planning permission. The 'air quality neutral' calculations have been undertaken for the additional 6 units, the healthcare and nursery land uses, as the extant planning permission assessed the 'air quality neutral' for the remaining Site. The extant planning permission was not 'Air Quality Neutral'.

TECHNICAL NOTE

7.2. The Air Quality Neutral calculations have been undertaken following the methodology described in the 'London Plan Air Quality Neutral Guidance'⁴ and are presented below.

Table 2 Calculation of Transport Emission Benchmarks (TEB)

Land Use	Floor Area (m2) /	Benchmark Trip Rates (Outer London)	Total Bench Mark Trip Rate (trips/year)
Residential Land Use	6 dwellings	447	2,682
Healthcare Land Use	2000 m ²	44.4	88,800
Nursery Land Use	500 m ²	44.4	22,200
Total (TEB)			113,682

7.3. The transport assessment for the development predicted that the development would generate a total of 112,417 trips per annum, comprising trips relating to each of the following land uses:

- Residential (6 units): 3,833
- Healthcare: 69,414
- Nursery: 39,171

7.4. The total development trip rate is lower than the TEB. The additional 6 residential units and the proposed healthcare and nursery land uses are considered 'air quality neutral' in terms of transport emissions.

8. Proposed Air Quality Contributions

8.1. The calculations follow the methodology proposed and agreed between Stantec and the London Borough of Hillingdon (LBH) Air Quality team regarding the calculation of the financial contribution for air quality associated with the extant planning permission (ref. 1331/APP/2019/2314). This is not the damage cost of the emissions above the air quality neutral requirements, but the amount related to the total emissions from the 6 additional residential units.

Table 3 Calculation of Transport Emission Benchmarks (TEB)

Proposed measure	Total (te/yr)
Road NOx Emissions ^a	0.0086
Nestle contribution to Bulls Bridge emission reduction, 10% car reduction and Reduction due to New Bus ^b	34% reduction
Residual emissions after proposed mitigation has been accounted for	0.005676

^a The residential NOx emissions have been calculated using the current Emissions Factor Toolkit (v1.1) published by Defra. This has been run using an AADT of 11 and 0% HDV, an assessment year of 2025, speeds of 30kph and an average trip distance of 10km.

^b Technical note AQ003 from the 15th February 2018 estimated a total reduction of 34% brought by the proposed extant planning permission mitigation measures.

8.2. The remaining emissions (0.006 te/yr) have been used within the Defra Damage Costs calculator to calculate the residual damage costs. The price base year of 2015 has been used as per LBH original approach, combined with start year of 2025, end year of 2029 and damage cost valuation for NOx Road Transport Outer London Central Estimate. This has resulted in the total figure of £861.

⁴ Greater London Authority (2021) London Plan Guidance Air Quality Neutral. Consultation Draft November 2021

TECHNICAL NOTE

9. Summary

- 9.1. As summarised in this Note, it is considered that the proposed development does not have the potential to result in significantly differing impacts beyond those identified in the 2020 air quality assessment in relation to baseline air quality conditions, construction dust and operational impacts.
- 9.2. Therefore, the proposal accords with the approved planning permission and is considered acceptable in terms of air quality.