

**APPENDIX 7.4**  
**AIR QUALITY NEUTRAL**  
**CALCULATIONS**



## APPENDIX 7.4 AIR QUALITY NEUTRAL CALCULATIONS

### Building Emissions

The estimated annual NO<sub>x</sub> emission from the boilers and CHP is 344 kg/annum. The NO<sub>x</sub> Building Emissions Benchmarks (BEBs) are shown in Appendix 7.2. Based on Gross Internal Areas of 155 m<sup>2</sup> for retail, 2,589 m<sup>2</sup> for office and 110,727 m<sup>2</sup> for residential use, the estimated building emission benchmark is 2,984 kg/annum. The actual emissions are approximately 2,640 kg/annum less than the benchmark. The building will therefore comply with the air quality neutral requirement of the SPG on 'Sustainable Design and Construction' for building emissions.

Deleted: Floor  
 Deleted: 188  
 Deleted: 1,875  
 Deleted: 444  
 Deleted: 956  
 Deleted: 612

### Transport Emissions

The 'Air quality neutral' calculations for transport emissions for the Development are described in Table 7.4.1, Table 7.4.2 and Table 7.4.3.

**Table 7.4.11: Proposed Development Land use/Class and Trip Generation**

Land use/Class	No. dwellings	Trips/day	Trips/annum
Retail (A1)	-	225	82,125
Office (B1)	-	141	51,465
Residential (C3)	1381	2427	885,855

**Table 7.4.2: Transport Emissions Benchmarks (TEBs), Emission Factors and Average Distance Travelled for Outer London**

Land use/Class	TEBs*		Emission Factors**		Average Distanced Travelled (km)
	NO <sub>x</sub>	PM <sub>10</sub>	NO <sub>x</sub>	PM <sub>10</sub>	
Retail (A1)	-	-	249.0	42.9	5.4
Office (B1)	-	-	68.5	11.8	10.8
Residential (C3)	1,553	267			11.4

\*Units: g/dwelling/annum; \*\*g/vehicle-km

The number of dwellings and TEBs for each pollutant is multiplied to calculate the benchmark emissions for the Development.

The number of trips generated by the Development are combined with the emission factors and average distanced travelled by vehicles in Outer London in order to calculate the total emissions for the Development. A comparison between the Developments' benchmarked and total emissions are show in Table 7.4.3 below.

Deleted: ES2017  
 February  
 2017

**Table 7.4.3: Proposed Development Benchmarks**

Land use/Class	Benchmarked Emissions*		Proposed Development Emissions*		Comparison to Benchmarked Emissions*	
	NO <sub>x</sub>	PM <sub>10</sub>	NO <sub>x</sub>	PM <sub>10</sub>	NO <sub>x</sub>	PM <sub>10</sub>
Retail (A1)	38.3	6.6	156.5	26.9	+ 118.2	+ 20.3
Office (B1)	178.5	30.8	196.2	33.7	+ 17.7	+ 2.9
Residential (C3)	2,144.7	368.7	3,564.9	612.0	+ 1,420.2	+ 243.3

\*Units: kg/annum

The transport NO<sub>x</sub> and PM<sub>10</sub> emissions are approximately 66% above the benchmark requirements of the SPG. In essence, the emission benchmark is exceeded due to the agreed trip generation from the Development being above the trip generation benchmarks contained within the SPG on 'Sustainable Design and Construction'.

In terms of total NO<sub>x</sub> emissions from buildings and transport, the Development would comply with the air quality neutral requirements.

Deleted: ES2017  
February  
2017