

South Lambeth Phase 1, London Borough of Lambeth AQ Screening, AQDMP and AQ Neutral

Background

This project was for the construction of one residential block in the first phase of the South Lambeth Estate residential development. The site is within the borough-wide London Borough of Lambeth (LBL) Air Quality Management Area (AQMA); this AQMA was defined for 1-hour and annual mean exceedances of NO₂ and for 24-hour and annual mean exceedances of PM₁₀. LBL required an Air Quality Assessment (AQA), an Air Quality and Dust Management Plan (AQDMP) and an Air Quality Neutral Assessment (AQN) be submitted.

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Challenge

To ensure that local air quality was not significantly impacted by the development, and to ensure that new residents would not be exposed to unacceptable pollutant concentrations, the AQA needed to assess the impact of vehicle emission during the construction and operational phases of the development. A comprehensive AQDMP was needed to ensure that dust was sufficiently mitigated on site, to avoid adverse impacts at the nearby residential and commercial receptors. A construction dust risk assessment needed to be completed to inform the mitigation measures in the AQDMP. An AQN was required to calculate whether the development would be air quality neutral; if a development is not air quality neutral, mitigation measures must be implemented to offset emissions.

Solution

The AQA first assessed the existing air quality at the site to understand the pollutant concentrations that new residents would be exposed to. The assessment found that NO₂ concentrations at the site would likely be above the annual mean objective limit; therefore, a ventilation strategy was suggested. The strategy suggested utilising mechanical ventilation to draw air from the facades facing away from the A3 as the A3 is the main pollutant source at the site. The AQA also found that vehicle numbers during the construction and operational phases would not exceed their respective limits, and therefore a detailed air quality assessment was not necessary. The construction dust risk assessment found

that the overall dust risk impact was medium. Appropriate mitigation measures for medium risk sites were suggested from the Mayor of London's Control of Dust and Emissions During Construction and Demolition: Supplementary Planning Guidance. On-site water supply and drainage were assessed, measures for fuel storage were suggested, and responsibilities for the person in charge of air quality on-site were outlined. A monitoring protocol was devised; monitors will be placed along the southern and northern facades to measure dust generated on site. Hourly mean trigger levels were suggested; if this trigger level is exceeded, work would stop immediately and would not resume until best practice measures were confirmed to be in place. The AQN calculated building and transport benchmark emissions before calculating the development's actual emission from the building and transport. The assessment found that the actual building emissions did not exceed the benchmark, but the transport emissions did; therefore, mitigation measures were suggested to offset these emissions.