



LOCAL AIR QUALITY ASSESSMENT

**MARSH QUARRY, BURNLEY ROAD, SOWERBY BRIDGE
RESIDENTIAL DEVELOPMENT**

FOR JH CONSULTING (EAST MIDLANDS) LTD

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1 INTRODUCTION

Surface Property Ltd has been commissioned by JH Consulting (East Midlands) Ltd to address the Air Quality requirements of Calderdale Council with respect to a proposed planning application for residential development of a quarry site located at Marsh Quarry, Burnley Road, Sowerby Bridge. The Development will involve the construction of 25 residential units.

This assessment determines the level of mitigation required to be acceptable.

2 GUIDANCE

The local air quality assessment has been undertaken in accordance with requirements of the 'Air Quality & Emissions Technical Planning Guidance – Part of the West Yorkshire Low Emissions Strategy (WYLES) (TPG)¹ document. The assessment follows a three-stage process:

- Stage 1- Determining the classification of the development proposal;
- Stage 2- Assessing and quantifying the impact on local air quality; and
- Stage 3- Establishing the level of mitigation required by the proposal to meet National Planning Policy, Local Plan requirements and WYLES objectives.

3 AIR QUALITY ASSESSMENT

3.1 Stage 1 – Development Classification

This section is principally concerned with confirming the classification of the Development, under Stage 1. Under Table 1 of the TPG (Criteria for Development Classification) the Development is considered to be 'Minor'. This is on the basis that there are less than 50 residential units proposed.

The following criteria are not triggered:

- Based on the Transport Statement for the Development it will generate 15 two-way movements in any peak hour, and 125 trips per day (equating to 63 two-way movements). Given these numbers there is no exceedance of the peak hour or daily two-way movement threshold from the TPG;
- It has been assumed that the Development will provide 50 parking spaces (2 spaces per unit); this does not exceed, or come close to exceeding, the 100 parking spaces threshold in the TPG;
- The local transport infrastructure is considered adequate;
- The Development site is not adjacent to an Air Quality Management Area (AQMA) or area of concern (defined by the guidance as being a location where monitoring results are within 90% of the relevant objective value). There is no nearby Council monitoring, however, background NO₂ concentrations for the closest 1 km quadrant to the Development site (405500, 424500), according to DEFRA background pollutant concentration mapping², is 10.09 µg/m³ against an objective value of 40 µg/m³, which equates to circa 25% of the objective.

¹ Air Quality & Emissions Technical Planning Guidance: Part of the West Yorkshire Low Emissions Strategy. Available online: <http://www.wakefield.gov.uk/Documents/bins-environment/environmental-health/pollution/air-quality-and-planning-technicalguidance-plan.pdf> Accessed 25/02/2019

² <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2015>

None of the additional trigger factors detailed in Table 2 of the TPG (Additional Trigger Criteria for Major Developments) are relevant, specifically:

- The Development does not fall within the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and does not include air quality and/or transport as a specific likely impact;
- The Development is not located within an AQMA; the closest of which is located approximately 730 m southeast (AQMA Sowerby Bridge);
- The Development is not located in an area of concern (defined by the guidance as being a location where monitoring results are within 90% of the relevant objective value; as detailed above the background concentration is approximately 25% of the relevant objective value);
- The Development would not increase the existing traffic flow on roads of more than 10,000 AADT by 5% or more or increase traffic 5% on road canyons with >5000AADT;
- The Development will not introduce or significantly alter congestion and does not include the introduction of substantial road infrastructure changes;
- The Development will not result in reducing average speeds by more than 10kph;
- When operational as a housing development there will be negligible HGV traffic, which would be substantially less than the 10% threshold in the TPG; and
- No centralised combustion unit is proposed.

Section 5.2 of the TPG states that Minor development proposals may not in themselves create an additional air quality problem but could add to local polluting emissions if not mitigated and potentially expose new occupants to existing levels of poor air quality. An assessment of the likelihood of introducing additional exposure is therefore required using the exposure criteria defined in the TPG. As a result of this, a Local Air Quality Assessment (as described in the TPG) has been produced.

3.2 Stage 2 – Local Air Quality Assessment

3.2.1 Exposure Criteria

Development may increase local emissions of pollutants and potentially expose future occupants of the Development to existing levels of poor air quality. The TPG sets out that an assessment of the likelihood of introducing additional exposure should be carried out using the following criteria:

- *“The proposal is within an area of concern or within an AQMA;*
- *The proposal is in a location 20m from roads at or above the relevant national objective highlighted on the DEFRA GIS modelled maps (DEFRA Maps).*
- *The proposal is one of the land use types:*
 - *C1 to C3 in table 1;*
 - *Homes of Multiple Occupations (C4); or*
 - *D1 in table 1.*
- *and within 20 m of roads with >10,000 AADT (Annual Average Daily Traffic).*
- *Where a Transport Statement or Assessment is provided, the calculated increase in trip generation associated with the proposal should inform the Travel Plan as to the required reduction in trips necessary to achieve compliance with NPPF and Local Plan policies.”*

3.2.2 Exposure Assessment

The Development does not lie within an AQMA. The nearest AQMA is Sowerby Bridge AQMA which is located approximately 730 m southeast of the Development.

Modelled NO₂ concentrations for roads surrounding the Development, including the A646 (Burnley Road), is between 10 and 20 µg/m³ as highlighted on the DEFRA GIS modelled maps³. These levels are between 25% and 50% of the relevant national objective.

The Development is of land use type 'C3 – Dwelling houses', but the units have been set back from the road by circa 22 m, and so exceed the 20 m threshold in the TPG, despite the A646 (Burnley Road) having an AADT count of 12,884⁴ motor vehicles in 2017.

The Calderdale Unitary Development Plan details requirements for transportation assessment and states that a detailed Transport Assessment, or Travel Plan, is required for residential development which exceeds 50 units in size. The Development will consist of a maximum of 25 units. Despite this number being below the recommended requirements, a Transport Statement has been prepared as part of the planning application submission.

A summary of the exposure assessment, based on the criteria identified in the TPG, is provided in Table 3.1.

Table 3.1: Exposure Assessment Criteria Summary

Criterion	Does Development meet the criterion?
Within AQMA/Area of Concern?	No
<20 m from roads at/above the national air quality objective?	No
Land use C1-C4 or D1, and <20 m from busy roads?	No
If required by Local Plan policy, does the Travel Plan fail to reduce generated trip numbers sufficiently to meet NPPF and Local Plan Policies?	No

3.3 Stage 3 - Impact Mitigation

As shown in Table 3.1, the Development meets the exposure criteria listed in the TPG. On the basis of this, the level of mitigation required to make the Development acceptable has been classed as Type 1 proposal mitigation. The TPG document presents default mitigation measures for Type 1 proposals in order to achieve the minimum air quality requirements.

3.3.1 Construction Dust

A number of best practice mitigation measures could be employed to minimise dust emissions during construction. The following measures should be considered:

- Develop a Dust Management Plan;
- Damping down of brick walls during building demolition;
- Regular inspection and wet suppression of material/soil stockpiles where necessary (including wind shielding or complete enclosure, storage away from site boundaries,

³ <https://uk-air.defra.gov.uk/data/gis-mapping>

⁴ <https://www.dft.gov.uk/traffic-counts/cp.php?la=Calderdale>

and restricted height of stockpiles), with increased frequency when activities with high potential to generate dust are carried out during prolonged dry or windy conditions;

- Appropriate orientation of material stockpiles;
- Provision of wheel washing and wet suppression during loading of wagons/ vehicles;
- Covering vehicles carrying dry spoil and other wastes to prevent escape of materials;
- Shielding of dust-generating construction activities;
- Use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques;
- Use enclosed chutes, conveyors and covered skips;
- Avoid site runoff of mud or water; and
- Provision of suitable site hoarding.

3.3.2 ELV Charging Points

As per Table 3 of the TPG, there is a requirement to install one charging point per unit (defined as a dwelling with dedicated parking) or 1 charging point per 10 unallocated spaces (unallocated parking).

There are 25 residential units, each providing allocated parking. Electric vehicle charging points will therefore be provided for each unit, *i.e.* a total of 25 ELV charging points will be installed.

3.3.3 Boiler Specifications

Where dwellings have gas-fired boilers, boilers must not exceed the minimum standard of 40 mg NO_x/kWh. Dwellings with a gas-fired CHP plant must meet the following minimum emission standards:

- Spark ignition engine 250 mg NO_x/Nm³;
- Compression ignition engine 400 mg NO_x/Nm³; and
- Biomass boiler 275 mg NO_x/Nm³ and 25 mg PM/Nm³.

4 CONCLUSION

A Local Air Quality Assessment has been undertaken in accordance with the Air Quality & Emissions Technical Planning Guidance.

Mitigation measures proposed for the Development are proposed in accordance with the TPG, and include the following:

- Dust mitigation measures;
- The provision of 25 ELV charging points, one per unit as all units will have allocated car parking spaces; and
- Minimum standards for all gas-fired boilers, CHP plant and biomass boilers.