

7.1.3 Air Impact Assessment Report

Existing Environment

The Site is a former sand and gravel quarry. The lands surrounding the Application Site can also be predominantly characterised as rural in nature, with land uses in the area being generally agricultural, and single-house residential. The agricultural lands contiguous to the boundaries of the Application Site are used for livestock grazing and tillage. An existing sand and gravel quarry operated by Roadstone is adjacent to the Site to the west and another sand and gravel quarry under GCHL management is approximately 600 m to the south-west. Thin areas of scrub exist along the Application Site's boundary, and a small watercourse (a tributary to the River Glash) runs along the eastern boundary of the Site. There is residential housing in the area, with a number of houses situated to the north and east of the Site. An EPA licenced abattoir and boning hall, Moyvalley Meats, is located 500 m east of the Site.

Monitoring Results

The dust monitoring records from April to May show no exceedances of the 350 mg/m²/day recommend dust deposition limit value. This is reflective of the baseline environment at the Site.

Statement

It is considered that emissions of main polluting substances (as defined in the Schedule of EPA (Industrial Emissions) (Licensing) Regulations 2013, SI. No. 137 of 2013) to the atmosphere are unlikely to impair the environment.

Assessment of Impacts and Mitigation Measures

Table 7.1.3 assess the potential impacts from the proposed development on the local microclimate and air quality both with and without the establishment of appropriate mitigation measures (detailed in Section 7.7 and 7.7.1 of the EIAR Chapter 7). Definitions of effect significance is as defined in the EPA's 2017 'Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports'. It is considered that the impact from vehicle emissions will have an imperceptible effect in the medium term whilst the Site is being actively restored. An 'imperceptible effect' is defined as An 'effect capable of measurement but without noticeable consequences'.

Without mitigation measures it is considered that dust impacts from deposition activities may not affect the character of an environment but would have noticeable changes. Through the implementation of mitigation measures it has been demonstrated that the dust from various activities has an effect capable of measurement but without noticeable consequences to the environment.

Upon restoration and the establishment of agricultural lands and the maturity of the planted areas of the Application Site there will be a permanent effect (>60 years) of carbon sequestration, resulting in a positive effect on the microclimate.

Table 7.1.3: Assessment of Impacts to Climate and Air Quality and Mitigation Measures employed

Impact	With / Without the establishment of Mitigation Measures	Type of Effect	Quality of Effects	Significance of Effects	Duration of Effects
Vehicle emissions	Without	Direct	Negative	Imperceptible	M-T
Vehicle emissions	With	Direct	Negative	Imperceptible	M-T
Dust from deposition	Without	Direct	Negative	Slight	M-T
Dust from deposition	With	Direct	Negative	Imperceptible	M-T
Dust from transfer on haul roads	Without	Direct	Negative	Slight	M-T
Dust from transfer on haul roads	With	Direct	Negative	Imperceptible	M-T

Impact	With / Without the establishment of Mitigation Measures	Type of Effect	Quality of Effects	Significance of Effects	Duration of Effects
Dust from transfer on public roads	Without	Direct	Negative	Slight	M-T
Dust from transfer on public roads	With	Direct	Negative	Not Significant	M-T

Notes:

- Type of Effect – Direct and Indirect
- Quality of Effects – Positive; Neutral and Negative
- Significance of Effects – Imperceptible; Not significant; Slight Effects; Moderate Effects; Significant Effects; Very Significant; and Profound Effects
- Duration of Effects – Momentary Effects (Seconds to minutes); Brief Effects (Less than a day); Temporary Effects (Less than a year); Short-term Effects (1 to 7 years); Medium-term Effects (7 to 15 years); Long-term Effects (15 to 60 years); and Permanent Effects (Lasting over 60 years)

Residual Impacts

Residual impacts of the development on air quality, microclimate and climate change are considered to be imperceptible. During long spells of dry weather, dust emissions can potentially be more elevated, however dust nuisance from the operation is expected to be unlikely if the above mitigation measures are implemented during restoration. The overall impact from the proposed restoration is **not significant to imperceptible** to the air environment.

Upon completion of the site restoration, the concentration of airborne dust would be expected to be reduced from operational levels as the result of covering and seeding of exposed, un-vegetated soil surfaces. This will most likely constitute a minor **positive impact** for the local environment.

Cumulative Impacts

Research has shown that the greatest proportion of dust predominately deposits within the first 100 m away from the source (*The Environmental Effects of Dust from Surface Mineral Workings, Volume 1 DETR, HMSO 1995*) as they have a higher deposition velocity than finer particles (i.e. PM10 and PM2.5). The finer particles of less than 10 microns aerodynamic diameter may remain airborne for longer and therefore travel larger distances, although a large proportion may still deposit within 200 m of the source.

Other extractive industries and industries which have the potential to effect air quality from dust generation in the area include Roadstone and GHCL which are located near to the Application Site to the west. However, with the implementation of the mitigation measures proposed in Section 7.7 cumulative impacts related to air quality are not envisaged as a result of proposed activities at the Application Site in Ballinderry.

Mitigation

The main potential impact during development will be due to airborne dust and potential dust deposition outside the Application Site boundaries. During long spells of dry weather, dust emissions can potentially be more elevated, however dust nuisance from the proposed operation is expected to be unlikely once mitigation measures are implemented during production and restoration. Details of mitigation measures that will be employed at the Application Site are summarised below:

- Retention and enhancement of existing vegetation at the Site perimeter;

- Dust monitoring will continue to be carried out monthly at the four designated monitoring locations;
- The timing of operations will be optimised in relation to meteorological conditions;
- Material in outdoor stockpiling will be conditioned with water to minimise dust during dry and windy conditions. In addition, stockpiles will be sited to take advantage of shelter from wind;
- Overburden mounds will be grass-seeded and planted to eliminate wind-blown dust;
- Plant will be regularly maintained;
- Internal haul roads will be compacted and maintained;
- A water bowser/sprayer will be available at all times to minimise dust during dry and windy conditions;
- On site speed restrictions (<25 kph) will be maintained in order to limit the generation of fugitive dust emissions; and

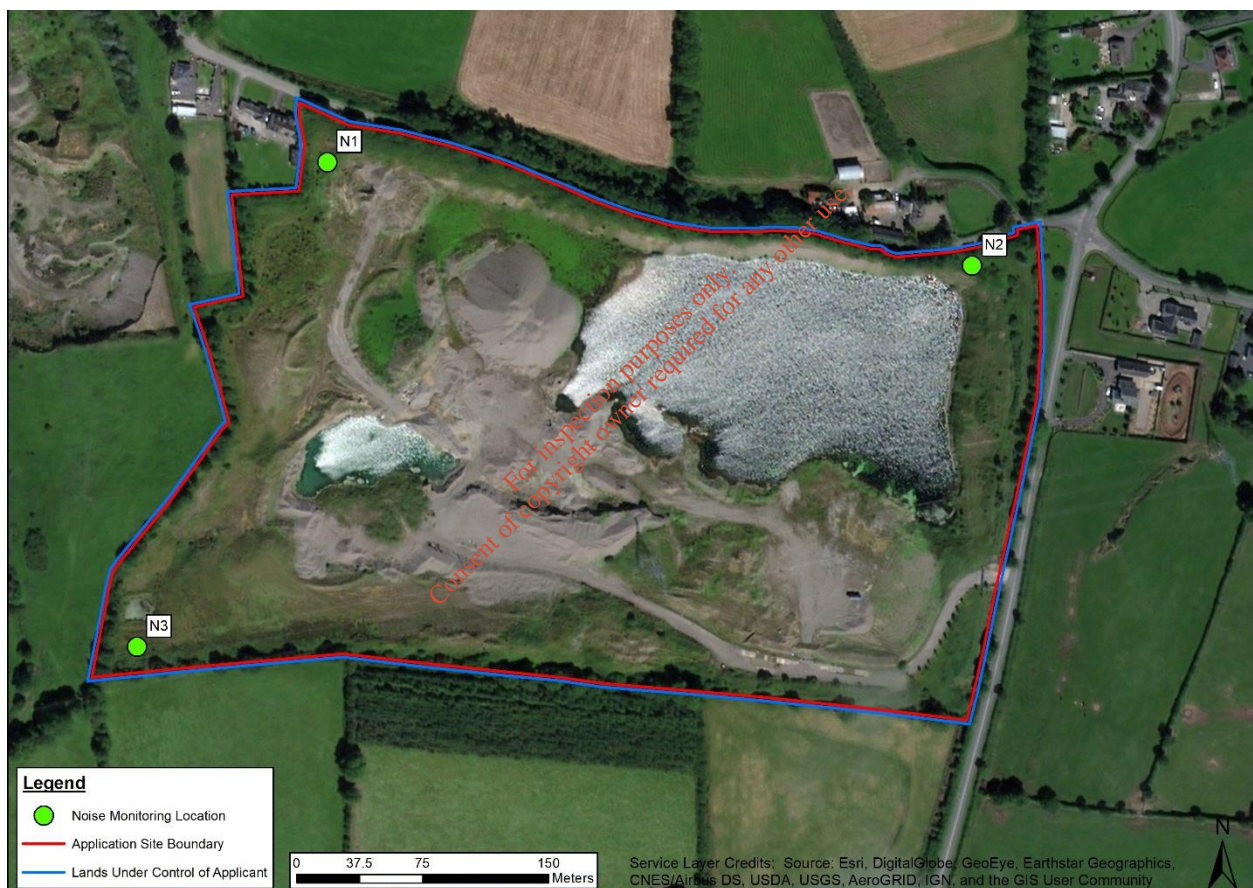


Figure 7: Dust monitoring Locations