Appendix 11.2: Construction Dust Risk Assessment – Site A

Construction Dust

2.1 Whilst no detailed construction phase information is currently available, the type of activities that could cause fugitive dust emissions are: demolition; earthworks; handling and disposal of spoil; wind-blown particulate material from stockpiles; handling of loose construction materials; and movement of vehicles, both on and off site.

2.2 The level and distribution of construction dust emissions will vary according to factors such as the type of dust, duration and location of dust-generating activity, weather conditions and the effectiveness of suppression methods.

2.3 The main effect of any dust emissions, if not mitigated, could be annoyance due to soiling of surfaces, particularly windows, cars and laundry. However, it is normally possible, by implementation of proper control, to ensure that dust deposition does not give rise to significant adverse effects, although short-term events may occur (for example, due to technical failure or exceptional weather conditions). The following assessment, using the IAQM methodology, predicts the risk of dust impacts and the level of mitigation that is required to control the residual effects to a level that is “not significant”.

Risk of Dust Impacts

Source

2.4 The volume of the buildings on site that would be demolished has been estimated to be below 20,000 m^3, the dust emission magnitude for the demolition phase is classified, using the IAQM dust guidance, as small.

2.5 The site area is greater than 10,000 m^2, the dust emission magnitude for the earthworks phase is classified as large.

2.6 The total volume of the buildings to be constructed would be between 25,000 and 100,000 m^3 and the dust emission magnitude for the construction phase is classified as medium.

2.7 Assuming that the maximum number of outwards movements in any one day is less than 10 HDVs, the dust emission magnitude for trackout would be classified as small.

Table 11.2.1 Dust Emission Magnitude for Demolition, Earthworks, Construction and Trackout

Demolition	Earthworks	Construction	Trackout
Small	Large	Medium	Small

Pathway and Receptor - Sensitivity of the Area

2.8 All demolition, earthworks and construction activities are assumed to occur within the site boundary. As such, receptors at distances within 20 m, 50 m, 100 m, 200 m and 350 m of the

site boundary have been identified and are illustrated in Figure 11.2.1. The sensitivity of the area has been classified and the results are provided in Table 11.2.2 below.

Table 11.2.2 Sensitivity of the Surrounding Area for Demolition, Earthworks and Construction

Potential Impact	Sensitivity of the Surrounding Area	Reason for Sensitivity Classification
Dust Soiling	High	Approx 10 -100 residential properties on Bridger Close, Wellers Close and Golf Links Road. 10 – 100 high sensitivity receptors located within 20 m of the site boundary (Table 11.1.4).
Human Health	Low	Approx 10 -100 residential properties on Bridger Close, Wellers Close and Golf Links Road. Background PM_{10} concentrations for the assessment = 14.3 µg.m^{-3} 10 - 100 high sensitivity receptors located within 20 m of the site boundary and PM_{10} concentrations below 24 µg.m^{-3} (Table 11.1.5).

2.9 The Dust Emission Magnitude for trackout is classified as small and trackout may occur on roads up to 200 m from the site. The major route within 200 m of the site is Downview Road. The sensitivity of the area has been classified and the results are provided in Table 11.2.3.

Table 11.2.3 Sensitivity of the Surrounding Area for Trackout

Potential Impact	Sensitivity of the Surrounding Area	Reason for Sensitivity Classification
Dust Soiling	High	Between 10 and 100 residential properties aligning Downview Road. 10 – 100 high sensitivity receptors located within 20 m of the roads (Table 11.1.4).
Human Health	Low	Between 10 and 100 residential properties aligning Downview Road. Background PM_{10} concentrations for the assessment = 14.3 µg.m^{-3}10 – 100 high sensitivity receptors located within 20 m of the roads and PM_{10} concentrations below 24 µg.m^{-3} (Table 11.1.5).

Overall Dust Risk

2.10 The Dust Emission Magnitude has been considered in the context of the Sensitivity of the Area (Table 11.1.4 and Table 11.1.5) to give the Dust Impact Risk. Table 11.2.4 summarises the Dust Impact Risk for the four activities.

Table 11.2.4 Dust Impact Risk for Demolition, Earthworks, Construction and Trackout

Source	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium	High	Medium	Medium
Human Health	Negligible	Low	Low	Low
Risk	Medium	High	Medium	Medium

2.11 Taking the site as a whole, the overall risk is deemed to be high. The mitigation measures appropriate to a level of risk for the site as a whole and for each of the phases are set out in Chapter 11.

2.12 Provided this package of mitigation measures is implemented, the residual construction dust effects will not be significant. The IAQM dust guidance states that "*For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'.*" The IAQM dust guidance recommends that significance is only assigned to the effect after the activities are considered with mitigation in place

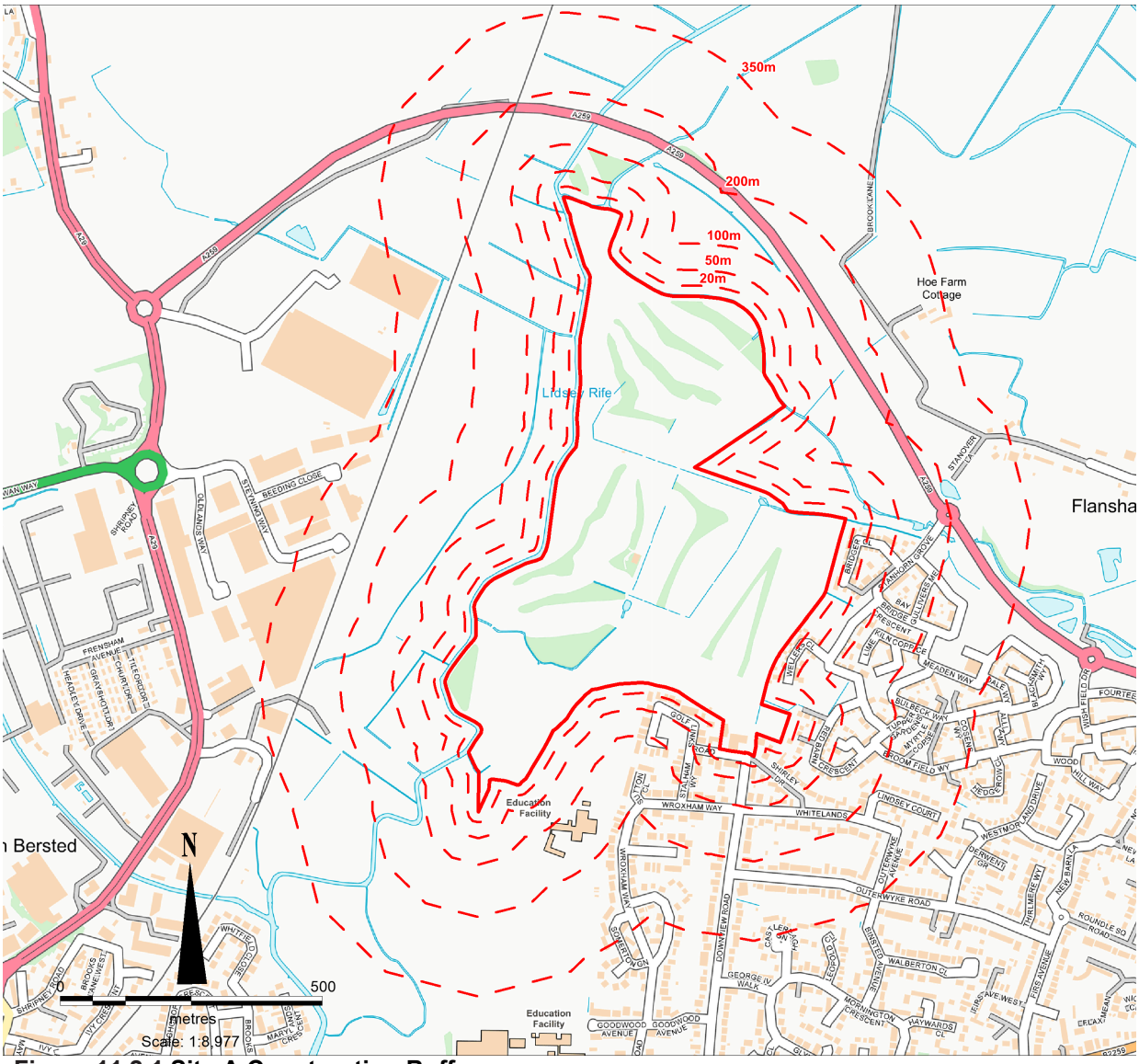

Figure 11.2.1 Site A Construction Buffers