

Viridor, Grundon and Ford EfW

Ford Circular Technology Park

Emissions Mitigation Statement

1 Introduction

This assessment has been undertaken in accordance with the Air Quality and Emissions Mitigation Guidance for Sussex (2020) (the “Emissions Mitigation Guidance”). The purpose of this assessment has been to assess the local transport emissions from a development and to determine the appropriate level of mitigation required to help reduce the potential effect on health and/or the local environment.

2 Methodology

The emissions assessment and mitigation calculation provide a means of calculating the emissions resulting from a development and producing an exposure cost value for mitigation measures and/or compensation. The emission calculation has been completed in accordance with the methodology outlined in the Emissions Mitigation Guidance, as detailed below.

- The additional number of trips generated by the development has been input into the latest DEFRA Emissions Factor Toolkit (EFT) which calculates the amount of transport related pollutant emissions a development is likely to produce.
- The output, given in kg of specified pollutant per year, has been converted to tonnes per year.
- The output has then been multiplied by the Interdepartmental Group on Costs and Benefits (IGCB) damage costs for the key pollutants NO_x and PM_{2.5}.
- Finally, the emissions total has then been multiplied by five to provide a five-year exposure cost value which is the amount (value) of mitigation that is expected to be spent on measures to mitigate those impacts. This value has then been used for costing the required emissions mitigation for the development.

3 Calculation

The Proposed Development is predicted to generate a total of 269 vehicle movements (2-way trips) on a 24-hour AADT basis of which 187 would be HGVs. However, the existing site is used as a Waste Transfer Station and some of the vehicles currently accessing the site would be diverted to the Proposed Development. Therefore, it is appropriate to base the assessment on the net change. The following table sets out the 24-hour AADT values for the existing use (calculated from the AM and PM peak data as set out in the Transport Assessment), the proposed use and the net change.

Table 1: Trip rates

Vehicle Class	Existing Use	Proposed Use	Net Change
All vehicles	166	269	103
HGVs	166	187	21
Note: The values presented are the 24-hour AADT and therefore account for the 6 days operation per week. Values presented are 2-way flow.			

DEFRA's EFT V10.0 has been used to calculate the emissions resulting from the Proposed Development. The vehicle speed and link length used in the calculation are as recommended in the Emissions Mitigation Guidance. The year 2026 has been used, which is the year that the Proposed Development is due to begin operation. The data input into the EFT is summarised in the following table:

Table 2: EFT Inputs

Vehicle Class	Road Type	Traffic Flow (24-hour AADT)	Speed (kph)	Link Length (km)
All vehicles	Urban (Not London)	103	50	10
HGV	Urban (Not London)	21	50	10

The outputs from the EFT are summarised in the following table.

Table 3: EFT Outputs

Pollutant	LDVs	HDVs	Total
Annual NOx emissions (kg/ year)	45.7	28.7	74.4
Annual PM2.5 emissions (kg / year)	5.2	4.9	10.1

The IGCB damage costs used are the latest central estimate of the Transport Average (2017 prices), which are currently £6,251 per tonne of NOx, and £55,777 per tonne of PM_{2.5} for the 'urban small' category. The calculation of the total emissions mitigation cost is summarised in the following table.

Table 4: Emissions Mitigation Cost

Pollutant	Annual Emissions (tonnes)	IGCB Damage Cost per tonne	Damage Cost per Year	5-Year Damage Cost
NO _x	0.07	£6,251	£465	£2,327
PM _{2.5}	0.01	£55,777	£565	£2,823
			Total	£5,150

The five-year exposure cost has been calculated as **£5,150**. However, if this is calculated as the total trip generation rate excluding the fact that the existing site is used as a Waste Transfer Station and some of the vehicles currently accessing the site would be diverted to the Proposed Development the five-year exposure cost has been calculated as **£23,329**.

4 Mitigation

The total cost of mitigation measures should be equivalent to or exceeding the five-year exposure cost of £5,150.

The following measures are included in the design will reduce the impact of vehicle emissions associated with the Proposed Development:

100% of the car spaces will include provision for charging electric vehicles.

Provision will be provided for 32 covered, secure cycle parking spaces for staff and visitors. Showers and lockers will be provided as part of the on-site staff welfare facilities.