

Emissions Mitigation Calculation

Date: 05 March 2025
Project Reference 64 Folders Lane, Burgess Hill

6-7 Lovers Walk
Brighton, East Sussex
BN1 6AH
T +44 1273 546 800

Document Status					
Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
0	Emissions Mitigation Calculation to discharge condition 9	Will Hunt BSc (Hons), MIAQM, MEnvSc, MLoL	Dr Steven Lees PhD, BSc (Hons), MIAQM, MEnvSc	Dr Steven Lees PhD, BSc (Hons), MIAQM, MEnvSc	05/03/2025

Emissions Mitigation Calculation

1 INTRODUCTION

- 1.1 The 64 Folders Lane Development is located within the administrative area of Mid Sussex District Council. The Development is comprised of 11 houses and 6 flats.
- 1.2 RPS were instructed by Riverdale Developments Ltd to undertake an emissions mitigation calculation to discharge condition 9 of the Section 73 planning permission from Mid Sussex District Council for the proposed residential development, on Folders Lane.

Condition 9 states:

“The applicant shall submit an emissions mitigation calculation, in accordance with the Air Quality & Emissions Mitigation Guidance for Sussex, which is current at the time of the application, the purpose of which is to assess the emissions relating to the development and to determine the appropriate level of mitigation required to help reduce the potential effect on health and/or the local environment. The emissions mitigation assessment must use the most up to date emission factors. A Mitigation Scheme to the calculated value shall be submitted to and approved in writing by the Local Planning Authority. Upon development, work should be carried out in accordance with the approved scheme.

Reason: To protect the amenities of nearby residents regarding air quality and emissions and to accord with Policy DP29 of the Mid Sussex District Plan 2014 -2031.”

2 EMISSIONS MITIGATION CALCULATION

- 2.1 The Air quality and emissions mitigation guidance for Sussex (2021) requires developments to estimate the associated health damage cost.

Emissions Calculation for Development Traffic

- 2.2 The method follows the example provided on pages 8 and 9 of Air quality and emissions mitigation guidance for Sussex (2021). The emissions assessment and corresponding mitigation calculation follows this process:

1. *identify the trips/annum generated by the proposed development (this information will be available in the Transport Assessment, Transport Statement or TRICS database);*
2. *assume an average distance travelled of 10km/trip;*
3. *calculate the emissions of NO_x and PM_{2.5} (tonnes/annum) using the Emissions Factor Toolkit, and an assumption of an average speed of 50 Km/h (Ref: DEFRA Emissions Factor Toolkit: <http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html>);*
4. *look-up the latest HM Treasury and Defra IGCB damage costs and multiply the outputs from 3. above to provide a value of the emissions health damage, for each pollutant. This can be found here: [Air quality appraisal: damage cost guidance - GOV.UK](#);*
5. *multiply the calculated emissions health damage values by 5, to quantify emissions over a five-year period; and*
6. *sum the NO_x and PM_{2.5} costs to provide a total health damage value.*

- 2.3 The guidance states that this is the minimum sum of money that must be spent on practical mitigation measures.

Results of the Emissions Calculation for Development Traffic

- 2.4 The number of vehicles trips generated by the development has been taken from the Transport Statement prepared by Motion for the development which states there would be up to 80 two-

way movements across a typical weekday. The average speed for the entire trip is assumed to be 50 km/hr. The emissions for the year of the completion of the site (2026) have been calculated using the DEFRA Emissions Factor Toolkit v12.1 and presented in Table 2.1

Table 2.1: 2026 Emissions

Pollutant	Emissions (tonnes per annum) 2026
NO _x	0.045
PM _{2.5}	0.005

- 2.5 In line with steps 4-6 of the Air quality and emissions mitigation guidance for Sussex (2021). The latest HM Treasury and Defra IGCB damage costs [i] for urban medium road transport NO_x and PM_{2.5} have been presented (2022 prices). The emissions presented in Table 2.1 have been multiplied by the selected Damage Cost and then multiplied by 5 to account for a five-year period.
- 2.6 The 2026 emissions presented in Table 2.1 are multiplied by the latest HM Treasury and Defra IGCB damage costs, as presented in Table 2.2.

Table 2.2: Steps 4-6 of Air quality and emissions mitigation guidance for Sussex (2021 Methodology)

Pollutant	Central Damage Cost (£/t)	Central Damage Cost x Emissions (£)	Total Cost for Five-Year Period (£)	Total Health Damage Value (£)
NO _x	9,054	411	2,055	3,692
PM _{2.5}	63,766	327	1,637	

- 2.7 The total Health Damage Value needed to be matched or exceeded by Riverdale Developments Ltd is £3,692.
- 2.8 The proposed itemised mitigation for the development is listed in Table 2.3.

Table 2.3: Itemised Mitigation Costing for the Development

Mitigation Type	Mitigation Target		
	£/unit	Number	Value ex VAT (£)
Communal Cycle Store for 2no Bicycles	1,400	1	1,400

Communal Cycle Store for 5no Bicycles	3,200	1	3,200
Bicycle Storage Sheds	1,070	5	5,350
Total Value			9,950

Table 2.3 demonstrates that the total estimated value of the proposed mitigation (i.e. £9,950) exceeds the calculated total Health Damage Value (i.e. £3,692). Therefore, it is considered that the mitigation itemised in Table 2.3 is sufficient to warrant discharge of condition 9, subject to confirmation that all measures will be in place and operational at the earliest occupation of the development and will be maintained throughout the lifetime of the development.

¹<https://www.gov.uk/government/publications/assess-the-impact-of-air-quality/air-quality-appraisal-damage-cost-guidance>