

8th September 2025

Our ref: 446192

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Response to Comments on Air Quality Assessment/ Emission Mitigation Assessment for Proposed Residential Development at Land West of Shoreham Road, Small Dole From Horsham District Council

RSK have received comments from Horsham District Council (dated 21st August 2025) via project Planning Team regarding the air quality assessment produced by RSK (ref: 446192-01(01), undertaken to assess road traffic and construction dust impacts from the proposed development at Land West of Shoreham Road, Small Dole.

PROJECT DESCRIPTION:	Outline planning application for up to 45 dwellings (including affordable homes) with all matters reserved apart from access.
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The Horsham District Council's comments are presented in *black italics* font. RSK's responses to the Horsham District Council comments are presented below in **blue**.

Horsham District Council Comment 1 dated 21st August 2025

Emission Mitigation Assessment

Environmental Health have reviewed the above-mentioned report, and we have the following comments to make.

The EFT and damage cost calculations appear to be inaccurate. The EFT should generate results for each of the first five years of the site being operational, and these annual figures should then be entered into the Damage Cost Toolkit. We have noted that the years used for the EFT are different to those used in the damage cost. Using the information provided in the Air Quality Assessment, I carried out these calculations and arrived at a higher total cost. Please could you review your figures using the above methodology and submit a new damage-cost, including a breakdown of your workings on the Excel files as supporting evidence?

For clarity, these are the figures I used for the EFT and Damage Cost toolkit:

- Start year = 2027
- End year = 2031
- Price base year = 2025 (baseline year for the project appraisal)

Additionally, the EFT used should be the most current version (V13.1), which was released in March 2025.

The Mitigation measures for the proposed development should be in line with the Sussex Air (2021) Air Quality and Emissions Mitigation Guidance for Sussex. The Sussex Air guidance aims to avoid the duplication of measures that would normally be required through other regimes. For example, pedestrian crossings and public right of ways would only be considered acceptable if they exceed the minimum requirements set out other planning policies, such as the Horsham District Planning Framework.

RSK has undertaken the revised damage costs calculations using the latest Emissions Factor Toolkit (V 13.1) released in March 2025.

The damage cost calculation is considered to provide a basis for quantifying the financial commitment required for offsetting potential development-generated emissions. The revised calculated central damage cost value for 5 years (including both NO_x and PM_{2.5}) is £5,680, which will be used to fund on- and off-site mitigation measures.

We have attached the damage cost calculation results (snips of the excel spreadsheets) for your reference in Appendix A.

In the Air Quality Assessment report (446192-01(01) submitted for the project), following mitigation measures from the travel plan for the project were proposed and indicative costs were also given, where available and it is much greater than the value determined by the damage cost calculation (i.e. £5,680).

The Proposed Mitigation Measures in the Travel Plan and the associated costs (provided by the transport consultants) are as follows:

- Travel Plan –There are a number of costed initiatives as well as the need for a Travel Plan Coordinator to be appointed to implement measures with the Travel Plan (e.g. provision of information, initiatives, travel welcome pack etc). The cost of the mitigation is estimated to be c. £25,000.
- Travel Vouchers - £150 sustainable travel voucher are proposed to be provided to the initial occupants of each residential dwelling. This is the preferred amount by West Sussex County Council (WSCC). As a maximum, the total cost is estimated to be £6,750.
- Provision of a Car Club. The cost is estimated to be £36,000.
- Total estimated amount, as above is **£67,750**.

The indicative costs for the proposed mitigation measures as given above are much greater than the value determined by the damage cost calculation (i.e. £5,680) as presented in Appendix A.

APPENDIX -A EMISSION MITIGATION ASSESSMENT

SNIPS OF FIVE YEARS (2027-2031) EFTs

DUPLICATE STYLES This workbook has many duplicate styles which can slow performance. Remove Duplicates

E16

Primary Inputs		Pollutants	Selected	Standard Outputs	Selected	Additional Outputs	Selected	Advanced Options	Selected	Click the button to:	
Area	England (not London)	NO _x	Y	Air Quality Modelling (g/km/s)	N	Breakdown by Vehicle		Bespoke Base Fleets		Run EFT	
Year	2027	PM ₁₀	N	Emissions Rates (g/km)	N	Source Apportionment		Bespoke Euro Fleet		Clear Input Data	
Traffic Format	Basic Split	PM _{2.5}	Y	Annual Link Emissions	Y	PM by Source		Fleet Projection Tool			
All must be selected			CO ₂	N		Primary NO _x Fraction		Export Outputs			

SourceID	Road Type	Traffic Flow	% HDV	Speed(kph)	No of Hours	Link Length (km)	% Gradient	Flow Direction	% Load
1	Rural (not London)	262	0	50	24	10			

AutoSave On EFT2025_v13.1 (1) 2027 - Excel

SECURITY WARNING Macros have been disabled. Enable Content

DUPLICATE STYLES This workbook has many duplicate styles which can slow performance. Remove Duplicates

E22

Source Name	Pollutant Name	All Vehicles (Annual Emissions (kg/yr except CO2 tonnes/yr))	All LDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	All HDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))
1	NOx	155.06132	155.06132	-
1	PM2.5	16.85469	16.85469	-

E24

Primary Inputs		Pollutants	Selected	Standard Outputs	Selected	Additional Outputs	Selected	Advanced Options	Selected	Click the button to:	
Area	England (not London)	NO _x	Y	Air Quality Modelling (g/km/s)	N	Breakdown by Vehicle		Bespoke Base Fleets		Run EFT	
Year	2028	PM ₁₀	N	Emissions Rates (g/km)	N	Source Apportionment		Bespoke Euro Fleet		Clear Input Data	
Traffic Format	Basic Split	PM _{2.5}	Y	Annual Link Emissions	Y	PM by Source		Fleet Projection Tool			
All must be selected			CO ₂	N		Primary NO _x Fraction		Export Outputs			



Source Name	Pollutant Name	All Vehicles (Annual Emissions (kg/yr except CO2 tonnes/yr))	All LDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	All HDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))
1	NOx	134.79478	134.79478	-
1	PM2.5	16.57072	16.57072	-

D17



Primary Inputs		Pollutants	Selected	Standard Outputs	Selected	Additional Outputs	Selected	Advanced Options	Selected	Click the button to:	
Area	England (not London)	NO _x	Y	Air Quality Modelling (g/km/s)	N	Breakdown by Vehicle		Bespoke Base Fleets		Run EFT	
Year	2029	PM ₁₀	N	Emissions Rates (g/km)	N	Source Apportionment		Bespoke Euro Fleet		Clear Input Data	
Traffic Format	Basic Split	PM _{2.5}	Y	Annual Link Emissions	Y	PM by Source		Fleet Projection Tool			
All must be selected			CO ₂	N		Primary NO _x Fraction		Export Outputs			

SourceID	Road Type	Traffic Flow	% HDV	Speed(kph)	No of Hours	Link Length (km)	% Gradient	Flow Direction	% Load
1	Rural (not London)	262	0	50	24	10			

A	B	C		D	E
Source Name	Pollutant Name	All Vehicles (Annual Emissions (kg/yr except CO2 tonnes/yr))	All LDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	All HDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	
1	NOx	115.70266	115.70266	-	
1	PM2.5	16.32332	16.32332	-	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Primary Inputs		Pollutants	Selected	Standard Outputs	Selected	Additional Outputs	Selected	Advanced Options	Selected	Click the button to:		 Department for Environment Food & Rural Affairs 				
Area	England (not London)	NO _x	Y	Air Quality Modelling (g/km ³)	N	Breakdown by Vehicle		Bespoke Base Fleets		Run EFT						
Year	2030	PM _{2.5}	N	Emissions Rates (g/km)	N	Source Apportionment		Bespoke Euro Fleet		Clear Input Data						
Traffic Format	Basic Split	PM ₁₀	Y	Annual Link Emissions	Y	PM by Source		Fleet Projection Tool								
All must be selected		CO ₂	N			Primary NO ₂ Fraction		Export Outputs								
SourceID	Road Type	Traffic Flow	% HDV	Speed(kph)	No of Hours	Link Length (km)	% Gradient	Flow Direction	% Load							
1	Rural (not London)	262	0	50	24	10										

A	B	C		D	E
Source Name	Pollutant Name	All Vehicles (Annual Emissions (kg/yr except CO2 tonnes/yr))	All LDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	All HDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	
1	NOx	98.24848	98.24848	-	
1	PM2.5	16.10655	16.10655	-	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Primary Inputs		Pollutants	Selected	Standard Outputs	Selected	Additional Outputs	Selected	Advanced Options	Selected	Click the button to:		 Department for Environment Food & Rural Affairs 				
Area	England (not London)	NO _x	Y	Air Quality Modelling (g/km ³)	N	Breakdown by Vehicle		Bespoke Base Fleets		Run EFT						
Year	2031	PM _{2.5}	N	Emissions Rates (g/km)	N	Source Apportionment		Bespoke Euro Fleet		Clear Input Data						
Traffic Format	Basic Split	PM ₁₀	Y	Annual Link Emissions	Y	PM by Source		Fleet Projection Tool								
All must be selected		CO ₂	N			Primary NO ₂ Fraction		Export Outputs								
SourceID	Road Type	Traffic Flow	% HDV	Speed(kph)	No of Hours	Link Length (km)	% Gradient	Flow Direction	% Load							
1	Rural (not London)	262	0	50	24	10										

A	B	C		D	E
Source Name	Pollutant Name	All Vehicles (Annual Emissions (kg/yr except CO2 tonnes/yr))	All LDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	All HDVs (Annual Emissions (kg/yr except CO2 tonnes/yr))	
1	NOx	82.83961	82.83961	-	
1	PM2.5	15.93583	15.93583	-	

EFT Outputs					
Pollutant_Name	2027	2028	2029	2030	2031
NOx(kg/yr)	155.06	134.79	115.70	98.25	82.84
PM _{2.5} (kg/yr)	16.85	16.57	16.32	16.11	15.94
Tonnes per year	2027	2028	2029	2030	2031
NOx	0.1551	0.1348	0.1157	0.0982	0.0828
PM _{2.5}	0.0169	0.0166	0.0163	0.0161	0.0159

The Defra Damage Cost Appraisal Toolkit (updated February 2023) was used with the following input:

- Start year: 2027
- End year: 2031
- Price Based Year: 2025
- Number of Pollutants: 2 (NO_x and PM_{2.5})

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J23

	A	B	C	D	E	F	G	H	I	J	K	L
1	Control Panel											
2												
3	Start Year		2027			Please type the year at which the policy will start from, the start year is also the discount year						
4												
5	End Year		2031			Please type the year at which the appraisal will end						
6												
7	Appraisal Period		5			Autofills the number of years for which the policy is reviewed for						
8												
9	Price Base Year		2025			Please type the price base year for your appraisal						
10												
11	Number of pollutants		2			Please type the number of pollutants to be assessed						
12												
13	Note: if you are assessing PM10 impacts, please convert these to PM2.5 using conversion factors found in the Assumptions sheet											
14												
15	<u>Key assumptions:</u>		Health discount rate			1.50% from appraisal year 0 to 30						
16						1.29% from appraisal year 31 to 75						
17						1.07% from appraisal year 76 to 125						
18												

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E36: =SUM(E35:XF035)

Year	2027	2028	2029	2030	2031
Reduction in emissions (tonnes)	0.155	0.135	0.116	0.098	0.083
Central Damage Costs (£)	5219	5219	5219	5219	5219
Central Benefit (£)	809	703	604	513	432
Discounted Central Benefit (£)	809	693	586	490	407
Central Present Value	£2,986				
Low Sensitivity Damage Costs (£)	1297	1297	1297	1297	1297
Low Sensitivity Benefit (£)	201	175	150	127	107
Discounted Low Sensitivity Benefit (£)	201	172	146	122	101
Low Sensitivity Present Value	£742				
High Sensitivity Damage Costs (£)	17932	17932	17932	17932	17932
High Sensitivity Benefit (£)	2781	2417	2075	1762	1485
Discounted High Sensitivity Benefit (£)	2781	2381	2014	1685	1400
High Sensitivity Present Value	£10,260				

Note: If you are assessing PM10 impacts, please convert these to PM2.5 using conversion factors found in the Assumptions sheet

NOx Road Transport Rural

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Formula Bar: E36 : =SUM(E35: XFD35)

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PM2.5 Road Transport Rural

Year 2027 2028 2029 2030 2031

	2027	2028	2029	2030	2031
Reduction in emissions (tonnes)	0.01685	0.01657	0.01632	0.01611	0.01594
Central Damage Costs (£)	33908	33908	33908	33908	33908
Central Benefit (£)	572	562	553	546	540
Discounted Central Benefit (£)	572	554	537	522	509
Central Present Value	£2,694				
Low Sensitivity Damage Costs (£)	13451	13451	13451	13451	13451
Low Sensitivity Benefit (£)	227	223	220	217	214
Discounted Low Sensitivity Benefit (£)	227	220	213	207	202
Low Sensitivity Present Value	£1,069				
High Sensitivity Damage Costs (£)	97583	97583	97583	97583	97583
High Sensitivity Benefit (£)	1645	1617	1593	1572	1555
Discounted High Sensitivity Benefit (£)	1645	1593	1546	1503	1465
High Sensitivity Present Value	£7,752				

Output from damage cost appraisal toolkit

	Central Present Value
Central value NOx	£2,986
Central value PM _{2.5}	£2,694
TOTAL	£5,680