



PLANNING STAGE AIR QUALITY ASSESSMENT

NEW PRESSING CENTRE, NYETIMBER VINEYARD, WEST CHILTINGTON, RH20 2HH

NYETIMBER WINES

SEPTEMBER 2026

**PLANNING STAGE AIR QUALITY ASSESSMENT
NEW PRESSING CENTRE, NYETIMBER VINEYARD,
WEST CHILTINGTON, RH20 2HH**

Our Ref: 9177_001R_2-0_HF



Client: Nyetimber Wines

Report by: Anderson Acoustics Limited
Tempus Wharf
33A Bermondsey Wall West
London
SE16 4ST

www.andersonacoustics.co.uk

T: [0203 176 7909](tel:02031767909)

Date: 21 September 2026

Project No: 9177

Status: Final Issue

Author	Harry Foster Senior Air Quality Consultant
---------------	--

21 September 2026

Reviewed	Adam Glass Principal Environmental Consultant
-----------------	---

21 September 2026

Approved	Adam Glass Principal Environmental Consultant
-----------------	---

21 September 2026

This document has been prepared using all reasonable skill and care. Anderson Acoustics Ltd accepts no responsibility or liability for any third-party data presented in this report or used to draw any conclusions. This document is confidential to the named client above, and Anderson Acoustics Ltd accepts no responsibility or liability resulting from third-party use of this document or for a purpose other than for which it was commissioned.

REVISION HISTORY

Version	Comments	Changes made by	Approved by
1.0	First issued version	HF	AG
2.0	Updated emissions mitigation assessment	HF	AG

CONTENTS

1	INTRODUCTION	5
2	AIR QUALITY PLANNING POLICY	5
3	AIR QUALITY – POLLUTANTS FOR CONSIDERATION	7
4	SITE SETTING & PROPOSED DEVELOPMENT	9
5	BASELINE CONDITIONS	10
6	AIR QUALITY ASSESSMENT	13
7	CONSTRUCTION DUST RISK ASSESSMENT	14
8	CONSTRUCTION MITIGATION MEASURES	19
9	EMISSIONS MITIGATION ASSESSMENT AND STATEMENT	22
10	CONCLUSIONS	24

1 INTRODUCTION

This report has been prepared in support of the outline planning application submitted by Nyetimber Wines to Horsham District Council (HDC). The application is for the construction of a two-storey detached barn to support the vineyard use (Sui Generis) to include associated landscape and access alterations.

The proposed development is expected to use non-combustion plant to meet the energy demand for hot water and space heating, with air source heat pumps currently being considered. It is expected that the development will result in 62 daily vehicle movements (44 light-duty vehicles and 18 heavy-duty vehicles) during its 6 weeks of operation per year. The site will be closed 10 months of the year.

Air quality planning policy relevant to the assessment is presented and briefly discussed in Section 2 of this report. The pollutants for consideration, along with air quality standards, are presented in Section 3. The site settings and proposed development are described in Section 4, and baseline air quality concentrations are reviewed in Section 5. The air quality assessment and site suitability are presented in Section 6. The dust risk assessment and management plan are presented in Section 7, along with construction and operational mitigation measures in Section 8. The emissions mitigation assessment is presented in Section 9, and the conclusions are presented in Section 10.

2 AIR QUALITY PLANNING POLICY

2.1 National and Regional Planning Policy and Guidance

2.1.1 National Planning Policy Framework (NPPF)

The NPPF¹ presents the Government's planning policies for England and how these are expected to be applied, with the development of local and neighbourhood plans under the framework. Paragraph 187 e of the NPPF identifies that the planning system should aim to conserve and enhance the natural and local environment by *"preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans..."*

Paragraph 199 states *"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."*

2.1.2 Planning Practice Guidance (PPG)

PPG² for air quality has been produced that gives an indication of details the local authority may want to consider when there are concerns about air quality, special requirements such as the height of chimneys and securing mitigation measures through planning conditions and obligations. The PPG considers that dust can also be a planning concern for effects on local amenity. The guidance considers that assessments should be proportional to the nature and scale of development proposed and the level of concern about air quality. The mitigation of air quality impacts and effects is to depend on the proposed development and should be proportionate to the likely impact.

¹ Ministry of Housing, Communities & Local Government. National Planning Policy Framework. 2024.

² Department for Communities and Local Government. 2019. Planning Practice Guidance – Air Quality. Revision date November 2019.

2.1.3 The IAQM's The Control of Dust and Emissions During Construction and Demolition

The IAQM's Guidance on the assessment of dust from Demolition and Construction³ seeks to reduce emissions of dust, PM₁₀ and PM_{2.5} from construction and demolition activities. The guidance considers that during the pre-application phase, local authorities should provide and advise on controlling dust and emissions and should set out their requirements for the planning application.

During the detailed application phase, the developer should submit an Air Quality and Dust Risk Assessment (AQDRA), which should confirm that an Air Quality and Dust Management Plan (AQDMP), following the guidance in the SPG, will be submitted to the local authority prior to works commencing on-site.

The AQDRA provides a summary of the risk to soiling (dirt deposited on surrounding structures), health and the natural environment, and recommends emission control measures to be implemented as part of the scheme.

This document considers that the activities on construction sites can be divided into four types to reflect their different impact:

- i. demolition;
- ii. earthworks;
- iii. construction; and
- iv. trackout.

These activities can lead to three separate dust impacts:

- i. the risk of health effects due to an increase in exposure to PM₁₀;
- ii. annoyance due to dust soiling; and
- iii. harm to ecological receptors.

2.2 Local Air Quality Policy, Guidance and Local Air Quality Management

2.2.1 Air Quality and Emissions Mitigation Guidance for Sussex (2021)

Sussex' Air Quality and Emissions Mitigation Guidance⁴ is used as a reference guide to improve air quality across Sussex.

Guidance is given for air quality assessments, which tends to be aligned with the guidance provided by the IAQM. It also states that emission mitigation assessments are required for developments that are:

- Classed as a major development, as defined by the Town and Country Planning Order;
- Within an Air Quality Management Area (AQMA);
- In relevant proximity to an AQMA;
- In an area close to exceeding the Air Quality Objectives (AQO); or/and,
- B8 storage and distribution use class with a floorspace of 500 m² or more.

If the development does not match any of the above conditions, no mitigation damage cost assessment will be required. If the development does match any of the above conditions, a damage cost calculation should be undertaken to determine an appropriate sum to be spent on mitigating the impact on air quality over a 5-year period.

2.2.2 Horsham District Planning Framework (Local Plan) 2015

HDC adopted the planning framework⁵ in March 2018 and the framework sets out the district's policies covering housing, infrastructure, environmental protection, and community needs, and serves as the primary framework for planning decisions. Specific mention of air quality is included in Policy 24: Strategic Policy: Environmental Protection, which states:

³ Institute of Air Quality Management. Guidance on the assessment of dust from Demolition and Construction. V2.2. 2024.

⁴ Sussex Air. Air Quality and Emissions Mitigation Guidance. 2021.

⁵ Horsham District Council. Horsham District Planning Framework. 2015.

“[...] Taking into account any relevant Planning Guidance Documents, developments will be expected to minimise exposure to and the emission of pollutants including noise, odour, air and light pollution and ensure that they:

1. *Address land contamination by promoting the appropriate re-use of sites and requiring the delivery of appropriate remediation;*
2. *Are appropriate to their location, taking account of ground conditions and land instability;*
3. *Maintain or improve the environmental quality of any watercourses, groundwater and drinking water supplies, and prevents contaminated run-off to surface water sewers;*
4. *Minimise the air pollution and greenhouse gas emissions in order to protect human health and the environment;*
5. *Contribute to the implementation of local Air Quality Action Plans and do not conflict with its objectives;*
6. *Maintain or reduce the number of people exposed to poor air quality including odour. Consideration should be given to development that will result in new public exposure, particularly where vulnerable people (e.g. the elderly, care homes or schools) would be exposed to the areas of poor air quality; and*
7. *Ensure that the cumulative impact of all relevant committed developments is appropriately assessed.”*

2.2.3 Horsham District Emerging Local Plan 2023 – 2040

The emerging Horsham District Local Plan 2023–2040⁶ was submitted for examination in July 2024 and remains subject to examination and proposed main modifications. Although the Plan has not yet been adopted, there are multiple policies that are relevant to planning consideration:

Strategic Policy 11: Environmental Protection

This policy states that development will be supported where it minimises exposure to, and the emission of, pollutants throughout all stages of development. Proposals should minimise air pollution, support relevant Air Quality Action Plans, maintain or reduce exposure to poor air quality and odour, and consider the cumulative effects of permitted and allocated development. Particular consideration should be given to sensitive and vulnerable receptors, including schools, care homes and residential uses.

Strategic Policy 12: Air Quality:

This policy identifies the whole of Horsham District as an Emission Reduction Area. Development proposals should have regard to the Air Quality and Emissions Mitigation Guidance for Sussex and determine whether an Air Quality Impact Assessment and/or Emissions Mitigation Statement is required. Development should minimise traffic generation and congestion through sustainable and active travel measures, encourage the use of cleaner transport and electric vehicle charging, and mitigate emissions arising during both the construction and operational phases. This includes emissions of dust, particulate matter, smoke, pollutant gases and odour.

Proposals should also consider cumulative air quality effects, including traffic associated with permitted and allocated development, and potential effects on habitats sensitive to air pollution and nitrogen deposition. Development within 7 km of The Mens Special Area of Conservation may require further assessment and appropriate mitigation.

3 AIR QUALITY – POLLUTANTS FOR CONSIDERATION

3.1 Introduction

The pollutants for consideration within HDC are nitrogen dioxide (NO₂) and particulate matter (PM).

Oxides of nitrogen include nitric oxide (NO) and nitrogen dioxide (NO₂). NO₂ can cause inflammation of the lungs, lead to shortness of breath and coughing, and can reduce immunity to lung infections such as bronchitis.

⁶ Horsham District Council, Horsham District Local Plan 2023–2040: Regulation 19, January 2024.

PM₁₀ is the fraction of PM that is 10 µm or less in size, and PM_{2.5} is the fraction of PM that is 2.5 µm or less in size. Both can be drawn into the lungs and can cause respiratory illness, cardiovascular illness and mortality.

3.2 Air Quality Standards

3.2.1 European and National Air Quality Standards

Air Quality Directive 2008/50/EC⁷ introduced legally binding “limit value” targets for the member governments to reduce air pollution to concentrations at which minimal effects on health are likely to occur. The directive was transposed into law through the Air Quality (England) Standards Regulations⁸ with air quality objectives and dates by which they were to be achieved. The sensitive locations at which the standards and objectives apply are places where the population is expected to be exposed to the various pollutants over the averaging period in question. For objectives to which an annual mean standard applies, the most common sensitive receptor locations used to measure concentrations are areas of residential housing, since it is reasonable to expect that people living in their homes could be exposed to pollutants over such a period of time. For shorter averaging periods of between 15 minutes, 1 hour or 1 day, the sensitive receptor location can be anywhere where the public could be exposed to the pollutant over these shorter periods of time. The annual mean objectives are not relevant for the building façades of offices or other places of work where members of the public do not have regular access, kerbsides or gardens.

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023⁹ defines that “*The annual mean concentration target is that by the end of 31st December 2040 the annual mean level of PM_{2.5} in ambient air must be equal to or less than 10 µg/m³ (“the target level”)*”. The Air Quality Strategy¹⁰ introduces interim targets to be achieved by January 2028. A summary of the objectives and targets is shown in Table 3.1, as amended by the Brexit regulations.

Table 3.1: Air Quality Objectives for NO₂, PM₁₀ and PM_{2.5}

Pollutant	Air Quality Objectives for Particulates and NO ₂		Date to be Achieved By
	Concentration	Measured as	
NO ₂	40 µg/m ³	Annual mean	31 December 2005
	200 µg/m ³ not to be exceeded more than 18 hours in a year	Hourly mean	31 December 2005
PM ₁₀	50 µg/m ³ not to be exceeded more than 35 times a year	24-hour mean	31 December 2004
	40 µg/m ³	Annual mean	31 December 2004
PM _{2.5}	10 µg/m ³	Annual mean	2040
	12 µg/m ³	Annual mean	January 2028
	20 µg/m ³	Annual mean	January 2020
	35% reduction in average population exposure relative to 2018	Annual mean	2040

⁷ Council Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe.

⁸ The Air Quality Standards Regulations 2010, SI 2010/1001

⁹ Statutory instrument. The Environmental Targets (Fine Particulate Matter) (England) Regulations. 2023.

¹⁰ Defra. Air Quality Strategy. Framework for local authority delivery. 2023.

22 % reduction in average population exposure relative to 2018	Annual mean	2028
--	-------------	------

The Environment Act 1995¹¹ introduced the requirement for local authority management of air quality. Part IV of this Act details the duties of local authorities in carrying out their local air quality management (LAQM) to tackle poor air quality. Part of the requirement is for the Review and Assessment of air quality and production of Updating and Screening Assessments (USA) and Status Reports. Where exceedance of these objectives is shown or anticipated, the local authority is required to produce an Air Quality Action Plan to reduce emissions and pollutant concentrations.

4 SITE SETTING & PROPOSED DEVELOPMENT

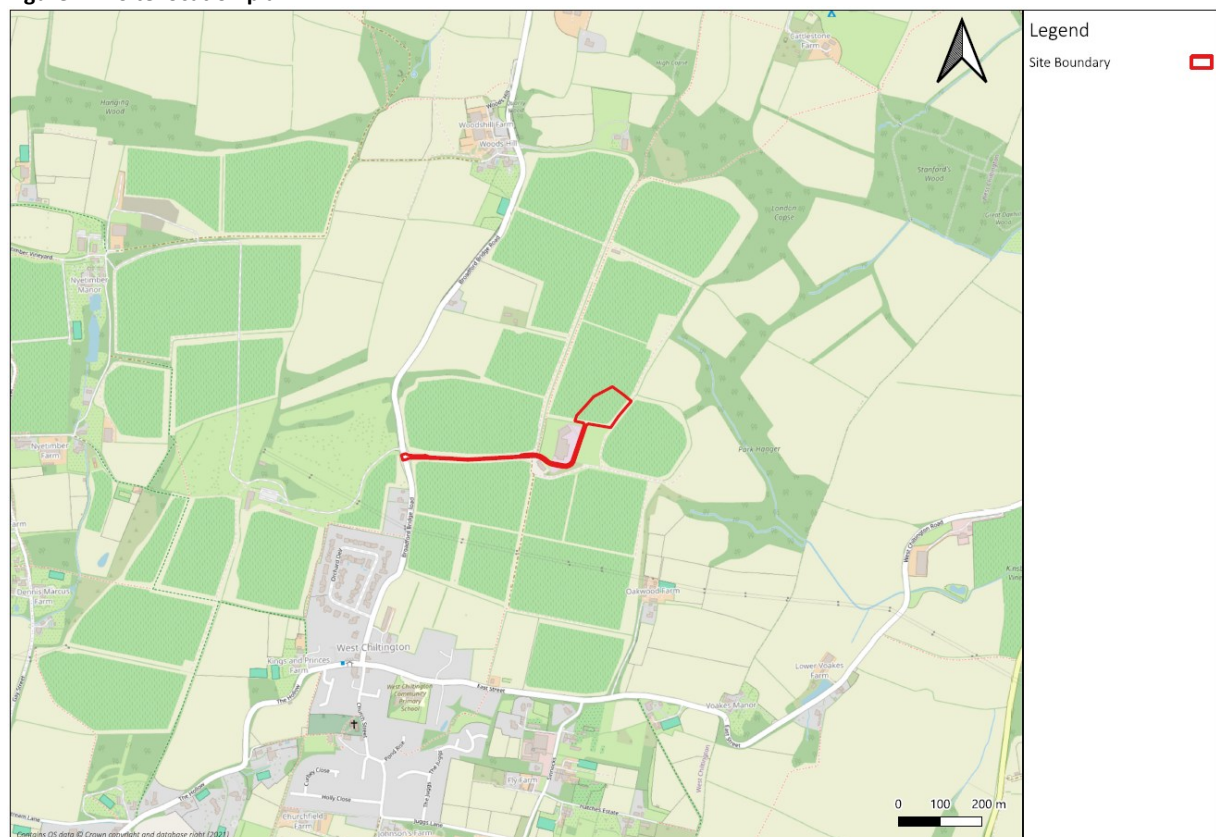
4.1 Site Setting

The site is approximately 7,800 m² in size and is located in a rural area, approximately 600 m north of West Chiltington, at national grid reference (NGR) ⁵09600, ¹19054, as shown in Figure 4.1.

There are no major roads in proximity of the site and therefore, concentrations of NO₂, PM₁₀ and PM_{2.5} across the site are not expected to be significantly influenced by road traffic emissions.

The proposed development site is surrounded by the vineyards that are operated by Nyetimber and the nearest residential receptors are located approximately 70 m from the site access, along Broadford Bridge Road.

Figure 4.1: Site location plan



¹¹ Office of the Deputy Prime Minister. The Environment Act. 1995.

The site is not situated within or near an Air Quality Management Area (AQMA). The nearest AQMA is located over 4.5 km to the south, in Storrington. Therefore, it is not anticipated that the development traffic will influence the Storrington AQMA.

4.2 Proposed Development

The proposed development comprises the construction of a two-storey detached barn to support the vineyard use (Sui Generis) to include associated landscape and access alterations. The floor area is approximately 1,573 m².

The proposed development is understood to relocate existing Nyetimber pressing operations from River Farm Barn to the proposed new Pressing Centre. On this basis, it is not expected to result in a material net increase in staff or harvest related vehicle movements associated with Nyetimber's pressing operations. Within this document, a worst case assessment has been undertaken which assumes that all operational trips associated with the proposed development would be additional to the local road network.

5 BASELINE CONDITIONS

5.1 Local Authority Monitoring Data

Reference has been made to the following information sources:

- i. HDC 2025 Air Quality Annual Status Report (ASR) (published July 2025);
- ii. Defra UK-Air¹²
- iii. Air Quality England¹³.

5.1.1 Automatic Monitoring

HDC operate one Continuous Monitoring Station (CMS) within 5 km of the development site. This is the roadside monitor located in Storrington, known as HO4. It is located approximately 4.78 km to the south of the proposed site and monitors concentrations of NO₂, PM₁₀, and PM_{2.5}. Data from recent years at the nearest CMS has been summarised in Table 5.1. Table 5.15.1

Table 5.1: Summary of CMS annual mean concentrations in proximity of the development site

Name (Site ID)	Distance to site (direction)	Type	Pollutant	Annual mean concentrations (µg/m ³)					AQO
				2020	2021	2022	2023	2024	
HO4 (Storrington AURN)	4.78 S	Roadside	NO ₂	17.4	20.1	17.6	17.4	16.6	40
			PM ₁₀	-	-	14	13.7	12.6	40
			PM _{2.5}	-	-	7.3	7.7	7.7	20

Table 5.1 shows that annual mean concentrations of NO₂, PM₁₀, and PM_{2.5} have all remained well within the respective AQO in recent years. It is also important to note that pollutant concentrations at the proposed development site are expected to be lower than those recorded at HO4 as the site is not situated within a built-up urban environment adjacent to a major road.

The latest ASRs show that the hourly mean concentrations of NO₂ have not exceeded 200 µg/m³ on greater than the allowable 18 occasions permitted by the AQO at either CMS in recent years.

5.1.2 Diffusion Tube Monitoring

¹² Defra UK Air Website (accessed 24/06/26 via <https://uk-air.defra.gov.uk>)

¹³ Air Quality in England Website (accessed on 24/06/26 via <https://airqualityengland.co.uk/>)

HDC operates a diffusion tube network across the district to measure concentrations of NO₂. Several diffusion tubes in the vicinity of the proposed development are shown in Figure 5.1 and summarised in Table 5.2.

Figure 5.1: Diffusion tubes in proximity of the development site

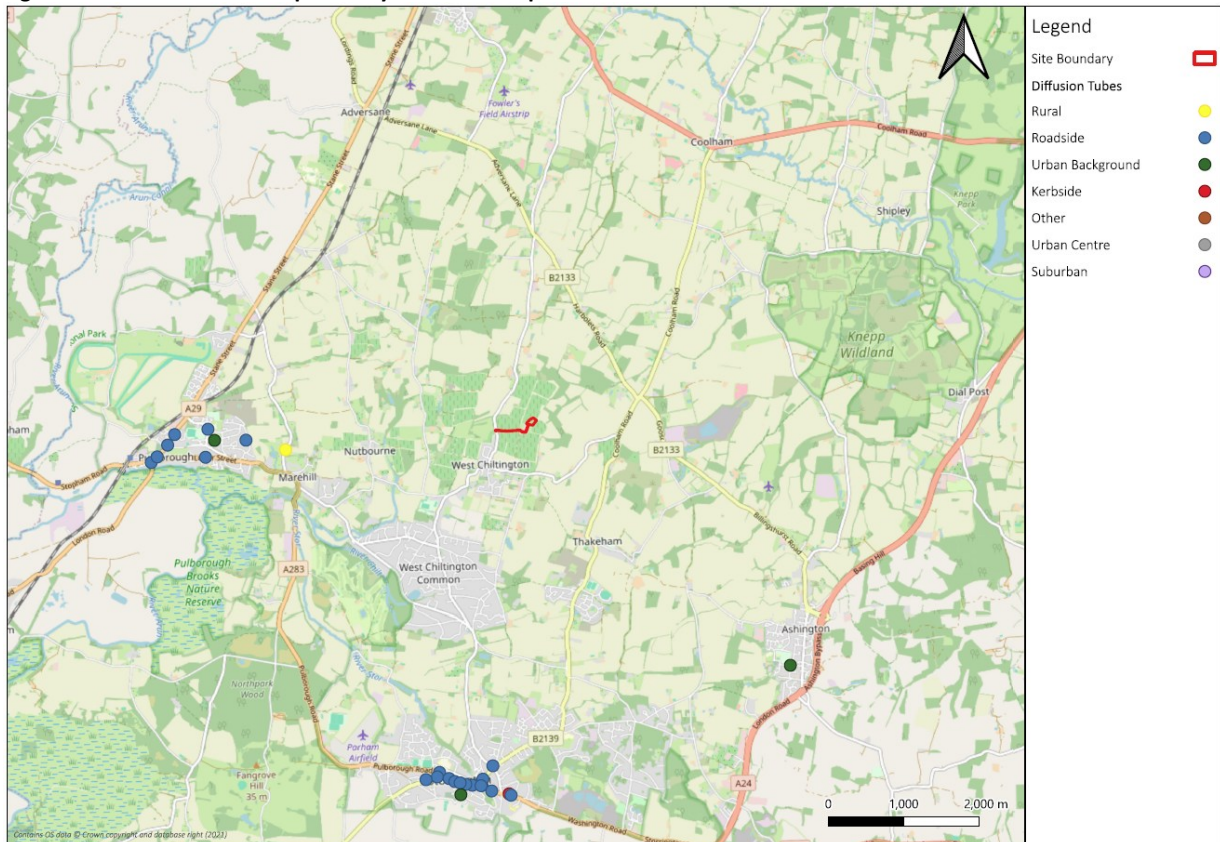


Table 5.2: Annual mean NO₂ concentrations from HDC diffusion tube monitoring

Site Name (ID)	Distance and direction from site (km)	Type	Annual mean concentrations (µg/m ³)					AQO
			2020	2021	2022	2023	2024	
Broomers Hill Lane (A29_Pulborough4)	2.8 W	Rural	-	-	-	9.2	-	40
Glebe Lands (A29_Pulborough1)	3.31 W	Roadside	-	-	-	8.1	-	
The Moat (A29_Pulborough5)	3.73 W	Urban Background	-	-	-	6.3	-	
St Mary's School (A29_Pulborough3)	3.81 W	Roadside	-	-	-	9.1	-	
Lower St (Pulborough 2)	3.86 W	Roadside	15.7	16.7	16.1	15.8	12.2	
London Rd / Chestnut Walk (Pulborough 3)	4.26 W	Roadside	-	-	-	14.7	-	
London Rd (top of Church Hill) (Pulborough 3.1)	4.35 W	Roadside	-	-	-	-	28.9	
Thakeham Rd / Fryern Rd (Storrington 15n)	4.45 S	Roadside	14.9	15.4	14.6	14.7	-	

Church Hill (Pulborough 4)	4.5 W	Roadside	-	-	-	-	35.1
Pulborough Rd (near Reed Cl) (Storrington 6)	4.59 S	Roadside	14.8	17.1	17.4	17.9	15.9
Station Rd / London Rd (Pulborough 1)	4.59 W	Roadside	-	-	-	-	16.2
School Hill (by Car Park) (Storrington 16n)	4.63 S	Roadside	18.9	19.2	18.4	17.5	15.1
53 West St (Storrington 11n)	4.66 S	Roadside	25	26.5	25.9	24.8	20.7
Amberley Rd / The Willows (Storrington 7)	4.66 S	Roadside	15.6	17.6	17.7	18.8	15.9
Ashington 1	4.68 SE	Urban Background	-	-	-	-	7.7

Table 5.25.2 shows that all diffusion tubes in the vicinity of the site stayed well within the AQO in recent years.

The nearest monitoring location, A29 Pulborough 4, is located approximately 2.8 km to the west of the site on Broomers Hill Lane, which shows that monitored NO₂ concentrations at this location remain well within the AQO, even adjacent to a road.

5.2 DEFRA Background Maps

The UK-AIR background air pollutant concentration maps have also been considered. The background maps are presented in 1 km x 1 km grid squares across England, Wales, Scotland and Northern Ireland. The current version of the background maps (reference year 2021) contains estimates of NO_x, NO₂, PM₁₀ and PM_{2.5} for the period 2021 through to 2040.

The 2021 reference year background maps are based on monitoring and meteorological data for 2021. Predicted background concentrations for the reference year (2021) and current year (2026) are summarised in Table 5.35.3.

Table 5.3: Predicted annual mean background map concentrations for grid square centred at 509500, 119500

Pollutant	Annual Mean Concentration (µg/m ³)		
	2021	2026	AQO
NO ₂	7.15	6.20	40
PM ₁₀	10.41	10.01	40
PM _{2.5}	6.07	5.72	20

All predicted background concentrations in Table 5.3 indicate that the pollutant concentrations at the proposed development site are well within the respective AQO and have decreased from 2021 to 2026.

5.3 Summary

The proposed development is in a rural location and is not expected to be significantly influenced by road traffic emissions. Following a review of published information sources, baseline concentrations of NO₂, PM₁₀ and PM_{2.5} are all assumed to be well within their respective long and short-term AQOs at the proposed development site, even at roadside locations within more built-up areas such as Horsham Town centre.

6 AIR QUALITY ASSESSMENT

6.1 Introduction

Developments can introduce new receptors into areas with poor air quality. They can also increase emissions of air pollutants during their construction and operational phases, and so these matters are assessed.

6.2 Site Suitability

The site is not situated within an AQMA, and the majority of future occupants are located over 70 m from the nearest significant source of pollution, Broadford Bridge Road to the east.

The proposed development comprises the construction of a new two-storey barn building to facilitate a Pressing Centre.

The Local Air Quality Management (LAQM) technical guidance (TG22) states that likely exceedances of the AQO should be assessed in relation to 'the quality of the air at locations which are situated outside of buildings or other natural or man-made structures, above or below ground, and where members of the public are regularly present.'

The focus is therefore on those locations where members of the public are likely to be regularly present and are likely to be exposed for a significant amount of time appropriate to the averaging period of the objective.

Research carried out on behalf of DEFRA¹⁴ concluded that exceedances of the 1-hour mean for NO₂ are unlikely to occur where the annual mean is below 60 µg/m³. As annual mean concentrations are expected to be below 60 µg/m³ in the vicinity and within the site, it can therefore be assumed that the short-term (1-hour) mean AQO is not at risk of being exceeded.

From the review of published information sources presented in Section 5, baseline concentrations of NO₂, PM₁₀ and PM_{2.5} are anticipated to be well within the respective annual mean and short-term AQOs at the proposed development site.

The site is therefore considered to be suitable for the proposed development from an air quality perspective. Detailed Assessment with dispersion modelling to inform site suitability is not considered to be required, as concentrations are not indicated to be over 90% of the AQO and trip generation of the development does not exceed the IAQM guidance. On this basis, a detailed dispersion modelling assessment is not considered necessary.

6.3 Construction Phase

The Proposed Development has the potential to result in emissions of dust and PM₁₀ during the construction phase, prior to mitigation. The risk of impacts is assessed in Section 7, with recommended mitigation measures outlined in Section 8.

6.4 Operational Phase

6.4.1 Traffic Emissions

Trip generation information has been provided by the project transport consultant, iTransport. The development will operate 24 hours per day, 7 days per week, for approximately 6 weeks per year during the harvest period, with the site closed for over 10 months of the year. 24/7 operation is necessary to ensure the best quality grapes and juice. The vineyards from where the grapes are coming are located across Sussex, Hampshire and Kent. The bottling centre where the pressed juice is taken is at Manor Royal, Crawley.

¹⁴ AEA Energy and Environment (2008). 'Analysis of the relationship between annual mean nitrogen dioxide concentration and exceedances of the 1-hour mean AQO Objective'

During the operational harvest period, the proposed development is expected to generate 62 two way vehicle movements per operational day, of which 18 would be HGV movements associated with deliveries/collections and 44 would be light duty vehicle movements associated with staff. When annualised over a full year, this is equivalent to a 24 hour AADT of approximately 7.1 two way vehicle movements, of which 2.1 AADT would comprise HGV movements, equivalent to 29% HGV.

Given the seasonal nature of the operation, and that the proposed development is to relocate existing Nyetimber pressing operations rather than introduce an entirely new year-round use, the development is not expected to result in a significant change in annual average daily traffic flows. Operational traffic emissions are therefore not considered likely to give rise to significant air quality effects.

6.4.2 Building Emissions

The heating and hot water demand is intended to be met by a non-combustion system such as an air source heat pump (ASHP). Consequently, the proposed development will not introduce any plant that emits significant NO_x or PM₁₀ concentrations and the existing sources of emissions would be removed.

6.5 Significance of Effects

The proposed development is in an area of suitable air quality, and there are no significant additional transport or building emissions to consider. Potential construction effects are mitigated through the dust management plan. The air quality effect of the proposed development is therefore considered as **“Not Significant”**.

7 CONSTRUCTION DUST RISK ASSESSMENT

7.1 Introduction

The purpose of this assessment is to identify the risk category associated with dust emissions from the demolition, earthworks, construction, and track-out phases, and to put in place a suitable management and mitigation strategy to ensure negative impacts and adverse effects are controlled and reduced.

The first step of the assessment is to conduct screening to establish if there is a need to proceed to detailed assessment. A dust risk assessment typically proceeds if there is a human receptor within 250 m of the boundary of the site or 50 m of the routes used by construction vehicles on the public highway, up to 250 m from the site entrances.

The IAQM guidance indicates that construction impacts on local air quality can be divided into four key areas;

- i. Demolition;
- ii. Earthworks;
- iii. Construction; and
- iv. Trackout.

7.2 Dust Emission Magnitude

The dust emission magnitude has been assessed for each of the four key areas above in relation to the Proposed Development. The dust emission magnitude is based on the scale of the anticipated works and is classified as small, medium, or large and is considered prior to mitigation. The following tables have been presented to demonstrate the criteria that the development is within for the specific measure/detail.

7.2.1 Demolition

There will be no demolition works associated with the proposed development, and therefore the dust emission magnitude is not applicable.

7.2.2 Earthworks

Table 7.1 Table 7.17.1 shows the IAQM criteria for assessing the dust emission magnitude for earthworks.

Table 7.1: Summary of IAQM criteria and development details for earthworks

IAQM Criteria				Development Details
Measure	Large	Medium	Small	
Total site area	> 110,000 m ²	18,000 m ² - 110,000 m ²	< 18,000 m ²	Approx. 10,000 m ²
Soil type	Potentially dusty soil type (e.g. clay)	Moderately dusty soil type (e.g. silt)	Large grain soil type (e.g. sand)	Bedrock: Hythe Formation - Sandstone. High to low dust potential.
Heavy earth moving vehicles active at once	> 10	5-10	< 5	< 5
Height of bunds	> 6 m	3- 6 m	< 3 m	No bunds

The site is approximately 10,000 m² and the working area is approximately 4,000 m². Due to the size and nature of the development, it is estimated that less than five heavy earth-moving vehicles will be active on the site at any given time, and it is not expected that any bunds will be positioned on site.

The British Geological Society (BGS) Open Geology of Britain Viewer indicates that the bedrock geology beneath the site is Hythe Formation - Sandstone. Sandstone has a high to low dust potential when dry.

The potential earthworks dust emission magnitude is considered to be **'Small'**.

7.2.3 Construction

Table 7.27.2 shows the IAQM criteria for assessing the dust emission magnitude for construction.

Table 7.2: Summary of IAQM criteria and development details for construction

IAQM Criteria				Development Details
Measure	Large	Medium	Small	
Total building volume	> 75,000 m ³	12,000 m ³ – 75,000 m ³	< 12,000 m ³	Approximately 10,000 m ³
Construction material	High dust potential and on-site concrete batching or sandblasting	Potentially dusty construction material such as concrete	Construction material with low dust potential (e.g. metal cladding or timber)	Steel frame and metal cladding

The proposed development comprises the construction of a new two-storey pressing centre, which will result in a total building volume of approximately 10,000 m³. It is expected that the building will be constructed of metal cladding, steel frame and metal sheet roofing.

The potential construction dust emission magnitude is considered to be **'Small'**.

7.2.4 Trackout

Table 7.37.3 shows the IAQM criteria for assessing the dust emission magnitude for trackout.

Table 7.3: Summary of IAQM criteria and development details for trackout

IAQM Criteria				Development Details
Measure	Large	Medium	Small	
HDV movements	> 50 HDV outward movements in any one day	20 – 50 HDV outward movements in any one day	< 20 HDV outward movements in any one day	< 20 HDV outward movements
Surface material	Potentially dusty surface material (e.g. high clay content)	Moderately dusty surface material (e.g. high clay content)	Surface material with low dust potential	Sandstone. High to low dust potential
Unpaved road length	> 100 m	50 – 100 m	< 50 m	Some areas of the site will use unpaved roads to access construction areas. Existing hardstanding surfaces will be used where possible.

Trackout dust impacts are associated with HDVs leaving the site after moving over unpaved ground where they will accumulate mud and dirt that can then be tracked out onto the public roads. Trackout impacts are linked to the number of outward HDV movements in a day.

Due to the nature of the existing site, hardstanding surfaces will be utilised for deliveries and site traffic, where possible. While some work zones will still require access via unpaved ground, the use of existing hardstanding surfaces will minimise vehicle movements on bare earth. As a result, the potential for dust generation from exposed ground will be reduced.

The potential dust emission magnitude in the absence of mitigation is considered to be ‘**Small**’.

7.2.5 Summary

A summary of the assessed dust emission magnitude, for individual construction activities is displayed in Table 7.47.4.

Table 7.4: Summary of the potential Dust Emission Magnitude

Phase	Dust Emission Magnitude
Demolition	N/A
Earthworks	Small
Construction	Small
Trackout	Small

7.3 Sensitivity of the Area

7.3.1 Introduction

The overall sensitivity of the area (as determined by the number and sensitivity of receptors within a given distance) is summarised in the following sections. Figure 7.1 and Figure 7.2 below show the 20 m, 50 m and 100 m buffers from the site boundary and 20 m and 50 m buffers from the anticipated trackout route.

Professional judgement has been applied, and therefore, for trackout impacts, the trackout route for potential dust effects has been considered to be 50 m from the site exit, and receptors within 50 m of the anticipated routes for HDVs have been considered.

Figure 7.1: Buffers from the development site.

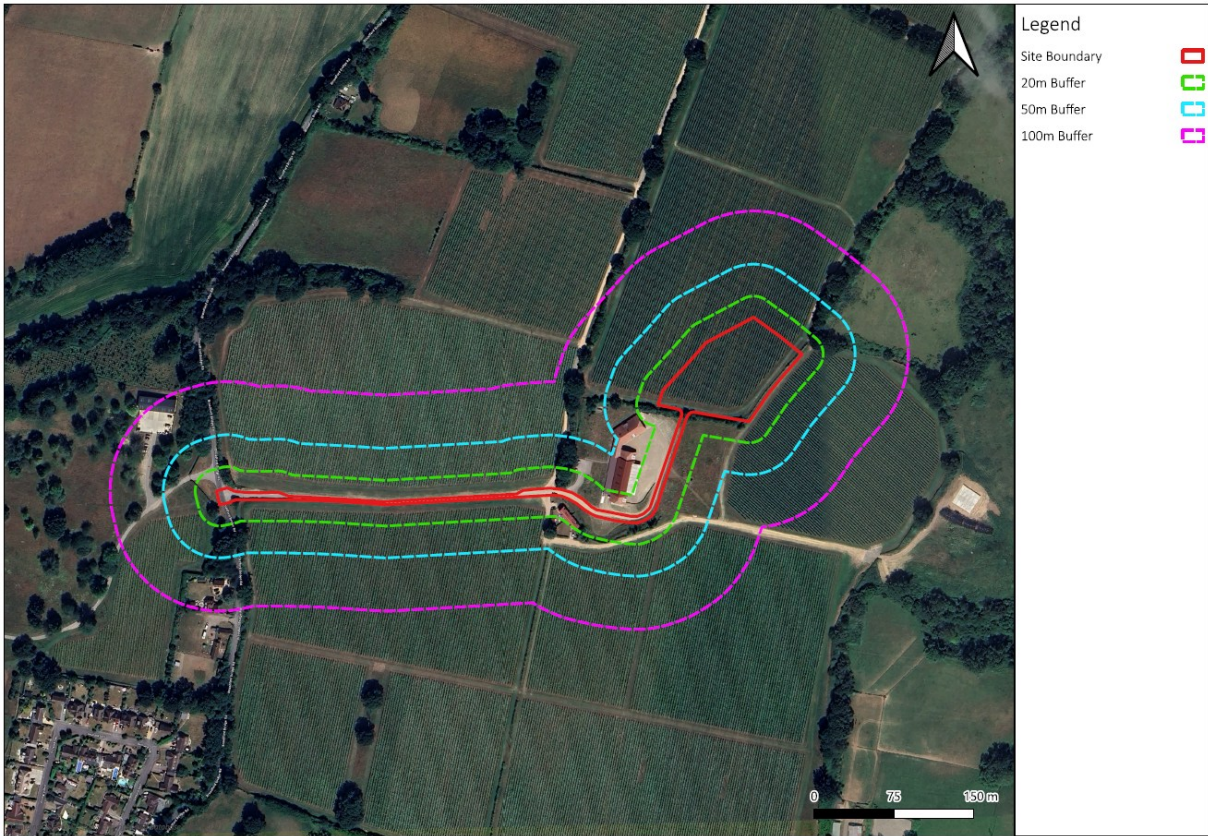
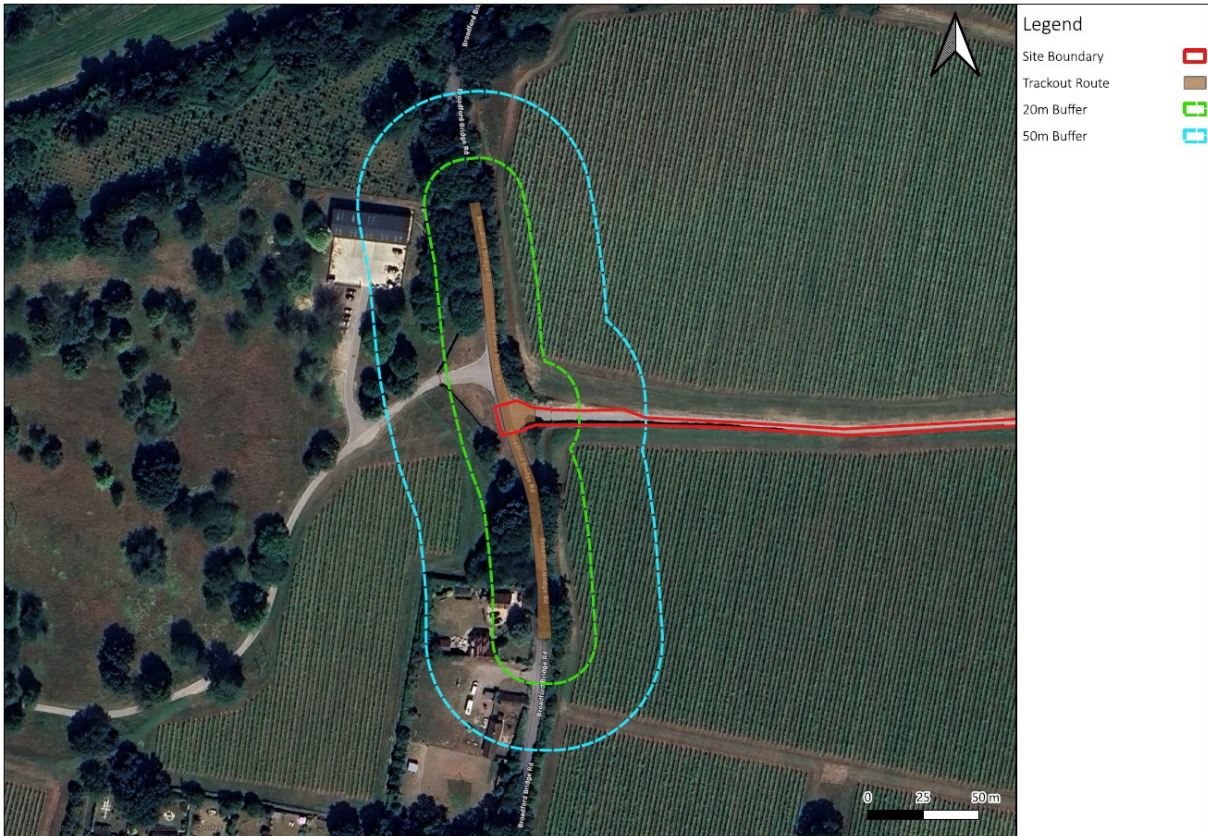


Figure 7.2: Buffers from the anticipated trackout route



7.3.2 Dust Soiling Effects

The sensitivity of receptors to dust soiling effects is dependent upon the duration and frequency that people would expect to be exposed to the effects. Residential receptors can be expected to enjoy a high level of amenity and background levels of dust soiling are expected to be low. It can be expected that dust soiling would diminish the aesthetics of their property, and such receptors are therefore assessed as being of high sensitivity. Residential properties, schools, nurseries and care homes are considered to be of high sensitivity for the purpose of this assessment.

Medium sensitivity receptors are those where users would expect to enjoy a reasonable level of amenity but would not reasonably expect to enjoy the same level of amenity as in their home or people or property would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land. Places of work and community uses are considered to be of medium sensitivity for the purpose of this assessment.

Low sensitivity receptors are those where the enjoyment of amenity would not reasonably be expected, or property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling. Exposure is of a transient nature and people, or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.

The buildings closest to the site are residential properties along Broadford Bridge Road including Knowe Top Cottages (adjacent to site access road) which are considered to be of high sensitivity with respect to dust soiling. Figure 7.1 and Figure 7.2 shows there are between 1-10 high-sensitivity receptors located within both 20 m of the site boundary and the anticipated trackout route.

The sensitivity of the surrounding area with regards to dust soiling effects is therefore considered to be **'Medium'** with respect to activities undertaken on site and along the trackout route.

7.3.3 Human Health

For health effects of PM₁₀, sensitivities are based on whether or not the receptor is likely to be exposed to elevated concentrations over a 24-hour period.

High-sensitivity receptors are those locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (eight hours or more in a 24-hour period). Indicative examples include residential properties, hospitals, schools, nurseries and residential care homes.

Workers are considered to be of medium sensitivity for the purpose of this assessment and low sensitivity receptors are those locations where human exposure is transient e.g. public footpaths, playing fields, parks and shopping streets.

With reference to monitoring data presented in Section 5, annual mean concentrations of PM₁₀ are predicted to be below 24 µg/m³ in the vicinity of the site and it is predicted that 1-10 high sensitivity will be present within 20 m of the site and the anticipated trackout route.

Taking into account the number and sensitivity of receptors identified in the dust-soiling section above and assumed baseline concentrations of PM₁₀, the sensitivity of the surrounding area with regards to human health impacts is considered to be **'Low'**.

7.3.4 Ecological Effects

With reference to the Multi Agency Geographic Information for the Countryside (MAGIC) website¹⁵, there are no internationally or nationally designated ecological sites such as SSSIs, SACs or SPAs identified within the IAQM screening distances of the site. Therefore ecological impacts are not required to be assessed.

¹⁵ www.magic.gov.uk (accessed 24/06/2026)

7.3.5 Summary

The sensitivity of the area surrounding the site is summarised in Table 7.57.5. For trackout impacts, receptors have been included up to 100 m from the site entrance and within 50 m of the anticipated routes for HDVs.

Table 7.5: Sensitivity of the Area

Receptor Sensitivity	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust soiling	Medium	Medium	Medium
Human health	Low	Low	Low
Ecological	N/A	N/A	N/A

7.4 Risk of Impacts

When the dust emission magnitude is combined with the sensitivity of the area, the risk of impacts with no mitigation applied can be determined. This determines the level of mitigation to be applied. The summary of the dust risk assessment is presented in Table 7.67.6.

Table 7.6: Summary of Dust Risk Impacts

Summary	Earthworks	Construction	Trackout
Dust soiling	Low	Low	Low
Human health	Negligible	Negligible	Negligible

In summary, the site is considered as '**Low Risk**' during all phases for dust soiling effects.

There is a '**Negligible Risk**' during all phases for human health effects.

The dust risk is used to define the amount of site-specific mitigation that is required. The mitigation measures are described in Section 8.

8 CONSTRUCTION MITIGATION MEASURES

8.1 Construction Phase

With reference to the IAQM guidance, the following measures in Table 8.1 form the dust management plan and are the IAQM recommended measures based on the risk assessment presented in section 7.

Table 8.1: Dust Management Plan

Reference	Mitigation Measure	Notes
Communications		
CM1	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	
CM2	Display the head or regional office contact information.	
CM3	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real-time PM ₁₀ continuous monitoring and/or visual inspections.	Visual inspections by site team
Site Management		
SM1	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	
SM2	Make the complaints log available to the local authority when asked.	

SM3	Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.	
Monitoring		
MT1	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.	
MT2	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	
MT3	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	
MT4	Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences.	As low risk only dust observation by site staff will be made
Preparing and maintaining the site		
PM1	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	
PM2	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	
PM3	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.	
PM4	Avoid site runoff of water or mud.	
PM5	Keep site fencing, barriers and scaffolding clean using wet methods.	
PM6	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	
PM7	Cover, seed or fence stockpiles to prevent wind whipping.	
Operating vehicle/machinery and sustainable travel		
OV1	Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards.	Best practice but not required as not in the ULEZ
OV2	Ensure all vehicles switch off engines when stationary.	
OV3	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	
OV4	Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	
Operations		
OP1	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	
OP2	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	
OP3	Use enclosed chutes and conveyors and covered skips.	
OP4	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	
OP5	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	
Waste management		
WM1	Avoid bonfires and burning of waste materials.	
Demolition		
DM1	No demolition mitigation required due to no demolition taking place	

Earthworks	
EW1	No earthwork specific mitigation required due low risk level
Construction	
CS1	Avoid scabbling (roughening of concrete surfaces) if possible.
CS2	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Trackout	
TO1	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
TO2	Avoid dry sweeping of large areas.
TO3	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
TO4	Record all inspections of haul routes and any subsequent action in a site log book.
TO5	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

8.2 Operational Phase

8.2.1 Introduction

Guidance on mitigating air quality impacts is provided in a document produced by the IAQM. The guidance emphasises that all developments should adopt good design principles to reduce emissions and minimise cumulative impacts regardless of the outcome of individual air quality assessments.

Additional operational phase mitigation is provided within the *Air quality and emissions mitigation guidance for Sussex (2021)*¹⁶. This includes the screening criteria for an Emissions Mitigation Assessment along with details of standard mitigation required for certain class uses.

8.2.2 Proposed Operational Mitigation Measures

The site is located in an area where concentrations of all pollutants are expected to be well within the relevant AQOs. The site is considered to be suitable for development without the requirement for mitigation measures to reduce exposure.

The proposed development is not anticipated to result in a significant increase in traffic, as the proposed Pressing Centre is understood to relocate existing Nyetimber pressing operations rather than introduce an entirely new year round use. As previously mentioned, a worst case assessment has been undertaken which assumes that all trips associated with the proposed development would be additional to the local highway network.

During the 6 week operational harvest period, the proposed development would generate 62 two-way vehicle movements per operational day, of which 18 would be HGV movements. When annualised over a full year, this equates to a 24 hour AADT of approximately 7.1 two way vehicle movements, of which approximately 2.1 AADT would be HGV movements, equivalent to 29% HGV. This level of traffic generation is not considered to be significant in air quality terms.

During the 6 week operational harvest period, the proposed development would generate 62 two-way vehicle movements per operational day, of which 18 would be HGV movements. When annualised over a full year, this equates to a 24 hour AADT of approximately 7.1 two way vehicle movements, of which approximately 2.1 AADT would be HGV movements. This level of traffic generation is not considered to be significant in air quality terms.

¹⁶ Sussex-air, air quality and emissions mitigation guidance for Sussex. 2021.

The heating and hot water demand for the scheme is anticipated to be met by a non-combustion system (air source heat pumps). This approach ensures good air quality design is applied as minimal localised emissions of NOx or PM will be introduced, if any.

8.3 Summary

The overall effect on local air quality from the construction and operation of the proposed development is considered to be 'not significant' provided the construction mitigation measures in the dust management plan are in place.

9 EMISSIONS MITIGATION ASSESSMENT AND STATEMENT

In accordance with the published *Air quality and emissions mitigation guidance for Sussex (2021)*¹⁷, an emissions mitigation assessment has been carried out.

The guidance published sets out the screening criteria which is reproduced in Table 9.1Table 9.19.1 below.

Table 9.1: Screening criteria for an emissions mitigation assessment

Is the proposed development:	Outcome
a major development, as defined by Town and Country Planning (Development Management Procedure) Order (England) 2015?	Yes
Within or in relevant proximity to an AQMA?	No
in an area close to exceeding the AQOs?	No
B8 storage and distribution use class with a floorspace of 500 m ² or more?	No

If any of the above outcomes are 'Yes', an Air Quality Assessment and an Emissions Mitigation Assessment is required, unless agreed in writing with the HDC Air Quality Officer.

As set out in the criteria above, an Emissions Mitigation Assessment is required for the development.

The emissions mitigation assessment provides a basis for quantifying the financial commitment required for offsetting potential development-generated emissions. The assessment calculates a damage cost by utilising the current DEFRA Emission Factor Toolkit (EFT) version 14.2¹⁸ to estimate the annual link emissions associated with the additional development generated traffic over a 5-year period.

The calculation attributes a monetary value to those emissions using the figures per tonne outlined by Defra air quality damage cost guidance¹⁹. The EFT outputs are input to the Defra air quality appraisal damage costs toolkit²⁰

Detailed trip generation information has been provided by the project's Transport Consultant, iTransport. Based on the data provided, the proposed development would generate 62 two way vehicle movements per operational day during the 6 week harvest period, of which 18 would be HGV movements. When annualised over a full year, this equates to a 24 hour AADT of approximately 7.1 two way vehicle movements, with approximately 2.1 AADT comprising HGV movements. This is equivalent to 29% HGV.

The guidance follows the standard procedure of assuming an average trip distance of 10 km/trip and the average speed as 50 kph. The calculation was undertaken for both NOx and PM emissions for each of the first five years of operation, from 2027 to 2031. The road type 'rural (not London)' has been used within the EFT. The EFT input and output factors have been shown in Table 9.2.

¹⁷ Sussex-air, air quality and emissions mitigation guidance for Sussex. 2021.

¹⁸ DEFRA Emission Factor Toolkit version 14.2, 2026. Accessed: <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/>

¹⁹ DEFRA air quality appraisal: damage cost guidance, 2025. Accessed: <https://www.gov.uk/government/publications/assess-the-impact-of-air-quality/air-quality-appraisal-damage-cost-guidance>

²⁰ DEFRA air quality appraisal: damage costs toolkit, 2025.

Table 9.2: EFT inputs

Factor	Value
Additional daily two-way trips	7.1
Speed assumed (km/h)	50
Distance travelled	10 km
HGV %	29%
Damage cost price base year	2026
Start Year	2027
End Year	2031
Road type	Rural not London

Defra damage costs have been applied in accordance with current national guidance. The central damage cost values for road transport rural emissions have been used for both NO_x and PM_{2.5}, consistent with standard practice for development assessments in rural areas. Table 9.3 shows the damage cost per tonne (using 2025 damage costs converted for the damage cost appraisal year (2026)) and calculates the yearly damage cost and the total damage cost of the development over a 5-year period. Table 9.3 presents the annual EFT emissions for each of the first five years of operation, while Table 9.4 presents the corresponding annual damage costs.

Table 9.3: EFT Outputs (tonne/annum)

	2027	2028	2029	2030	2031
NO_x	0.00646	0.00541	0.00451	0.00376	0.00315
PM_{2.5}	0.00091	0.00090	0.00088	0.00087	0.00085

Table 9.4: Output from Damage Cost Appraisal Toolkit

	2027	2028	2029	2030	2031	Total
Central Value NO_x	£39.07	£32.19	£26.47	£21.70	£17.92	£137.36
Central Value PM_{2.5}	£45.70	£44.14	£42.73	£41.42	£40.28	£214.28
Combined 5 year total	£ 351.63					

Note: Totals have been calculated using values to 2 decimal places.

The total central value of the damage associated with NO_x and PM_{2.5} emissions over the first five years of operation is £351.63. This has been calculated using the latest Road Transport Rural damage cost category.

The Sussex Air guidance states that the calculated damage cost represents the minimum financial value to be committed to measures that mitigate or offset the emissions associated with a development. Where appropriate mitigation cannot be incorporated within the development, the equivalent value may be secured through a planning obligation for investment in off-site measures that improve local air quality.

A financial contribution of £351.63 towards off site air quality measures will therefore be secured through a Section 106 Agreement, subject to agreement with HDC.

Table 9.5: Itemised mitigation measures

Mitigation Measure	Financial Value
Section 106 contribution towards off site air quality measures	£351.63

The total value of the proposed additional mitigation is equal to the calculated central damage cost associated with the development

Standard mitigation will also be required for all developments that answer 'Yes' to any of the screening criteria outlined in Table 9.1. Standard mitigation will be implemented in accordance with the West Sussex Air Quality Guidance for commercial development. This will include:

- Meet the West Sussex guidance on electric vehicle charging points and travel plans

- Demolition and construction mitigation in accordance with the IAQM guidance on Assessment of Dust from Demolition and Construction (as set out in Section 8)

The scheme is understood to include one active electric vehicle charging bay, with ducting provided for a further two spaces. The heating and hot water demand is also anticipated to be met using an air source heat pump system, avoiding local emissions associated with combustion plant. These measures represent standard requirements and good design practice and have therefore not been assigned a financial value as additional air quality mitigation.

10 CONCLUSIONS

Anderson Acoustics Ltd was commissioned by the Nyetimber Wines to undertake an Air Quality Assessment for the proposed development of a New Pressing Centre, Nyetimber Vineyard, West Chiltington, RH20 2HH. The proposed development comprises the construction of a new two-storey building that will be operational for 6 weeks per year.

Baseline concentrations of monitored air pollutants are well within the annual and short-term AQOs based on a review of published data sources, and the site is not situated within an AQMA. No specific mitigation measures are considered necessary to reduce future occupants' exposure to air pollution, and the site is considered to be suitable for the proposed use.

Development traffic is not anticipated to significantly impact traffic levels on the local road network, and therefore detailed assessment with dispersion modelling is not required.

The proposed development heating is expected to be through an air source heat pump and consequently, the overall effect of the operational scheme on local air quality is judged to be 'not significant'.

There is a '**Low Risk**' during all phases for dust soiling effects and a '**Negligible Risk**' during all phases for human health effects, prior to the consideration of mitigation. Recommended mitigation measures are outlined in Table 8.18.1. With the proposed mitigation in place for the duration of the construction works, the overall effect on local air quality is judged to be 'not significant'.

As the proposed development is understood to relocate existing Nyetimber pressing operations, it is not anticipated that the development would result in a net increase in operational staff or harvest related vehicle movements., it is anticipated that the development trip generation will remain the same as the existing use. However, within this document, a robust assessment has been undertaken, assuming all development trips will be additional vehicle trips associated with the site. Emission damage costs have therefore been considered to be £351.63 over a 5-year period. A financial contribution of £351.63 towards off site air quality measures will therefore be secured through a Section 106 Agreement, subject to agreement with HDC.

Accordingly, the proposed development is considered a suitable use of the site and is compliant with relevant air quality policy and guidance.