

VISTRY GROUP PLC

**PROPOSED REDEVELOPMENT:
TYE LANE, WALBERTON**

AIR QUALITY ASSESSMENT

REPORT REF. 183246-05

PROJECT NO. 183246

AUGUST 2020

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1.0 INTRODUCTION

Proposed Development

- 1.1 Ardent Consulting Engineers Limited (ACE) has been appointed by Vistry South East to carry out an Air Quality Assessment (AQA) in support of the new revised application for residential development at Avisford Grange, Tye Lane, Walberton (hereafter known as 'the site').
- 1.2 This new application relates to Plots 17-20, 34-58, 68-69, 94-115 and 120 – 147 approved under reserved matters consent WA/95/18/RES for 81 residential units in total, with the description of development set out below:

Full Planning Application to revise the approved and partly implemented permission (WA/95/18/RES and WA/44/17/OUT) at land at Tye Lane, Walberton to provide for 30 additional dwellings including 9 affordable units with associated landscaping, road layout, access and parking.

- 1.3 The proposal seeks to provide 30 new dwellings on the approved development site (WA/95/18/RES and WA/44/17/OUT) which was granted consent for a total of 175 dwellings. A total of 81 residential units were to be situated within the area proposed to be revised by this current planning application. The proposal will therefore provide a total of 111 dwellings incorporating 9 affordable units (an uplift of 30 dwellings from the approved 81 dwellings). Across the wider site this will deliver 205 new dwellings in total.

Scope

- 1.4 This report describes the existing air quality within the study area and considers the suitability of the site for the proposed development and the potential impact of the development on local air quality during both the construction and operational phases.

- 1.5 The main air pollutants of concern related to construction are dust and particulate matter (PM₁₀ and PM_{2.5}) from demolition and construction activities and nitrogen dioxide (NO₂) and particulate matter from construction vehicle emissions.
- 1.6 The pollutants related to the operational phase are associated with road traffic (NO₂, PM₁₀ and PM_{2.5}) and energy plant (NO₂).
- 1.7 There is likely to be a significant fluctuation in the numbers of vehicle movements associated with development construction throughout the construction period, with peak periods generally being related to initial demolition and delivery of materials. When HGV movements are averaged over a year (Annual Average Daily Traffic – AADT), these will be significantly lower than peak movements. Taking this into account, along with the implementation of the AQDMP, it is considered that any impacts from construction vehicle emissions on local air quality will be temporary and not significant and have therefore been scoped out of this assessment.
- 1.8 As there is no centralised energy plant or communal boilers there is not expected to be any significant local emissions associated with the energy strategy and further assessment of plant has therefore been excluded from this assessment.
- 1.9 The assessment has been prepared taking into account relevant local and national guidance, policy and legislation.

2.0 LEGISLATION, POLICY AND GUIDANCE

National Air Quality Policy

The Air Quality Strategy

- 2.1 The Air Quality Strategy (Defra, 2007) established the policy framework for ambient air quality management in the UK, with the objective of ensuring a quality of ambient air for all that would not pose a significant risk to health or quality of life. This document set out the National Air Quality Objectives (NAQOs) and the policy for achieving them. It followed part IV of the Environment Act (UK Government, 1995) which introduced a system of Local Air Quality Management (LAQM) requiring local authorities to regularly review and assess air quality within their boundary and appraise plans in light of these assessments.
- 2.2 Where a NAQO is unlikely to be met, the local authority must designate an Air Quality Management Area (AQMA) and draw up an Air Quality Action Plan (AQAP) which should include measures expected to ensure that the NAQOs are met within the AQMA.

National Air Quality Objectives

- 2.3 National Air Quality Objectives (NAQOs) were defined by The Air Quality Strategy (Defra, 2007) and enshrined in regulations by the Air Quality Standards Regulation (Statutory Instrument, 2010, No 1001) Air Quality Standards (Amendment) Regulations (Statutory Instrument, 2016 No. 1184) which implemented the European Union Directive on ambient air quality and cleaner air for Europe (Directive 2008/50/EC).
- 2.4 This directive consolidated the previous directive relating to ambient air quality assessment and management along with its three daughter directives. The limit values remained unchanged, however, member

states were given a time extension for compliance subject to approval. For most pollutants of interest, these documents set out average concentrations as either Objectives or Limit Values, however, for PM_{2.5}, exposure reduction targets were also set.

2.5 Relevant objectives are set out in **Table 2.1**, below.

Table 2.1: NO₂, PM₁₀ and PM_{2.5} Objectives

Pollutant	Time Period	Objective
Nitrogen Dioxide (NO ₂)	1-hour mean	200 µg/m ³ not to be exceeded more than 18 times a year
	Annual mean	40 µg/m ³
Particulate Matter (PM ₁₀)	24-hour mean	50 µg/m ³ not to be exceeded more than 35 ¹ times a year
	Annual mean	40 µg/m ³ ²
Particulate Matter (PM _{2.5})	Annual mean	25 µg/m ³ ³
	Annual mean	20 µg/m ³ ⁴
	Exposure reduction target	15% reduction between 2010 and 2020 at Urban Background sites

2.6 Analysis of long-term monitoring data suggests that if the annual mean NO₂ concentration is less than 60 µg/m³ then the 1-hour mean NO₂ objective unlikely to be exceeded where road transport is the main source of pollution. This concentration has therefore been used in this assessment to screen whether an exceedance of the 1-hour mean objective is likely. Similarly, an annual mean PM₁₀ concentration of 32 µg/m³ is used to screen whether an exceedance of the daily-mean PM₁₀ objective is likely.

2.7 Local Air Quality Management Technical Guidance 2016 (Defra LAQM TG:16, 2016) provides guidance to local authorities as to where NAQOs apply. These are summarised in **Table 2.2**.

¹ 7 times a year for Scotland

² 18 µg/m³ for Scotland

³ 12 µg/m³ for Scotland

⁴ Indicative stage 2 limit value post 2020

Table 2.2: Relevant Exposure

Averaging Period	Relevant Locations	NAQOs should apply	NAQOs don't usually apply
Annual mean	Where individuals are exposed for a cumulative period of 6 month in a year	Facades of residential properties, schools and hospitals	Gardens, facades of offices, hotels and shops or kerbside sites
24-hour mean	Where individuals are expected to be exposed for 24-hours or longer	As above, with the addition of hotels and gardens of residences	Kerbside sites and areas where the public is unlikely to spend significant time
1-hour mean	Where individuals are expected to spend one hour or longer	As above, with the addition of locations with regular access such as car parks, bus stations, parks and cafes	Locations not publicly accessible or where occupation is not regular

National Air Quality Plan for Nitrogen Dioxide (NO₂) in the UK

- 2.8 The National Air Quality Plan (Defra and DfT, 2017) was written as a joint venture between the Defra and the Department for Transport (DfT) and aims to tackle roadside concentrations of NO₂ in the UK. It includes a number of measures such as those aimed at investing in Ultra Low Emission Vehicles (ULEVs) charging infrastructure, public transport and grants to help local authorities in improving air quality.
- 2.9 The plan requires all local authorities (LAs) in England with areas expected not to meet the Limit Values by 2020 (known as 'air quality hotspots') to develop plans to bring concentrations within these values in "the shortest time possible".
- 2.10 These plans are to be reviewed by the government and suggestions included within the plan include actions such as utilising retrofitting technologies, changing road layout and encouraging public transport and ULEV use. Where these approaches are not considered sufficient, the LA may need to consider implementation of a Clean Air Zone

(CAZ) which places restrictions on vehicle access to an area and may include charging certain (or all) vehicles or restrictions on the type of vehicle allowed to access an area.

The Road to Zero Strategy

- 2.11 The 'Road to Zero' strategy (HM Government, 2018) sets out the governments aims regarding zero emissions vehicles. These include the aim that all new cars and vans have zero tailpipe emissions by 2040 and for almost every car to be zero emission by 2050. Measures are aimed at encouraging uptake of the cleanest vehicles and support electric charging infrastructure.

Clean Air Strategy

- 2.12 The Clean Air Strategy (Defra, 2019) sets out policies to lower national emissions of pollutants in order to reduce background pollution and human exposure. It aims to create a strong framework to tackle air pollution and to reduce the number of people living in locations with PM_{2.5} concentrations exceeding 10 µg/m³ by 50% by 2025.

Planning Policy

National Policy and Guidance

- 2.13 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) sets out the Government's planning policies for England and how they expect these to be implemented.
- 2.14 Consideration of air quality within planning is considered an important element of this framework which recommends that transport and the potential impact on the environment should be considered at an early

stage in order to allow for mitigation or even avoidance of impacts through location and layout of developments.

- 2.15 It is recommended that both the impacts of a potential development on the environment and the risk to new development from existing pollution be taken into account when planning policy is drafted and specified contributing to compliance with relevant limit values or objectives and should be consistent with any local AQMP.
- 2.16 The NPPF also recommends that *"existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed."*
- 2.17 Planning Practice Guidance (PPG) provides guidance on how planning can enact the policies set out in NPPF. It is set out as separate papers for different sectors and therefore PPG Air Quality (Ministry of Housing, Communities and Local Government, 2019) is aimed at addressing policy relating specifically to air quality. This document gives guidelines for when air quality is likely to be relevant to a planning decision:

"Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity."

- 2.18 PPG Air Quality also states that more detailed information such as whether the development could have a significant impact on air quality, baseline air quality and whether occupiers of the development could experience poor air quality may be required in order to make an informed decision. Further, it notes that any assessment should be proportionate, taking into account the scale of the proposed development, as well as any potential impacts.
- 2.19 Some suggestions on mitigation measures are set out within the PPG, such as separation distances, filtration/ventilation, green infrastructure, promotion of low emission forms of transport, control of dust and emissions from construction and, finally, contributing funding to measures such as those identified in AQMPs to offset impacts from the development.

Local Policy and Guidance

- 2.1 The Arun Local Plan (Arun District Council, 2018) was adopted in July 2018 and sets out the vision for Arun to 2031. A review of the document indicates one policy is specifically related to air quality. Policy QE DM3 'Air Pollution' states:

"All major development proposals will be required to assess the likely impacts of the development on air quality and mitigate any negative impacts by:

- a. Ensuring the development is located within easy reach of established public transport services*
- b. Maximising provision for cycling and pedestrian facilities;*
- c. Encouraging the use of cleaner transport fuels on site, through the inclusion of electric car charging points; and*
- d. Contributing towards the improvement of the highway network where the development is predicted to result in increased congestion on the highway network.*

Development proposed nearby any Air Quality Management Area (AQMA) declared within the District within the Plan period, will require an air quality assessment to identify likely impacts of development upon the designated area. Developers will be required to ensure delivery of the actions set out within any Air Quality Action Plan.

Industrial development which is regulated by environmental permits (that creates or results in dust, smell, fumes, smoke, heat, radiation, gases, steam or other forms of pollution) must be located in such a position which ensures that the health, safety and amenity of users of the site or surrounding land is not put at risk and the quality of the environment would not be damaged or put at risk."

Assessment Guidance

- 2.20 This assessment has been based on a number of guidance documents, the most significant of which are set out below.
- 2.21 *The Air Quality and Emissions Mitigation Guidance for Sussex (2020)* (Sussex Air Quality Partnership, 2020) sets out guidance on dealing with pollutants from transport and emissions of dust during demolition and construction within the planning process. The guidance requires all developments to be assessed against a screening checklist which then determines the level of assessment required to determine the impact of the proposals on local air quality and identify appropriate mitigation to reduce local effects.
- 2.22 *The Local Air Quality Management Technical Guidance* (Defra LAQM TG:16, 2016) was published for use by local authorities in review and assessment work but includes a number of technical guidelines on carrying out modelling assessment and management on monitoring data which set out best practice and are therefore relevant to all air quality assessments.

- 2.23 *Land-Use Planning and Development Control: Planning for Air Quality* (Institute of Air Quality Management and Environmental Protection UK, 2017) sets out joint guidance on the assessment of air quality impacts for planning purposes. This includes information on when an air quality assessment is required, what should be included in an assessment and the assessment of significance.
- 2.24 *Guidance on the Assessment of Dust from Demolition and Construction* (Institute of Air Quality Management, 2014) includes a methodology for identifying the risk magnitude of potential dust sources associated with demolition, construction, earthworks and trackout. This is then used to identify the level of mitigation necessary in order for the impacts to be not significant.

3.0 METHODOLOGY

- 3.1 The methodology set out in the following sections has been identified as being the most appropriate approach to identifying what potential impacts are associated with the proposed development and whether these impacts are acceptable, along with any required mitigation.
- 3.2 The approach has been to identify baseline conditions (based on mapped backgrounds, existing concentrations as measured by the local authority and the presence of any AQMAs or exceedances of the EU Limit Values), likely conditions for future residents and any potentially significant change in air quality which may result from the proposed redevelopment.
- 3.3 The approach for assessing construction dust impacts has been to identify the risk of construction dust impacts, followed by the level of mitigation appropriate so that the impact is not significant.

Baseline Air Quality

- 3.4 Information regarding the baseline air quality has been obtained by collating the results of monitoring carried out by ADC. Background concentrations have been defined based on the national pollution maps published by Defra (Defra, 2020).

Construction Dust Impacts

- 3.5 There is a potential for dust from onsite activities and off-site trackout during the demolition and construction to have an impact on sensitive human and ecological receptors within the study area.
- 3.6 The suspension of dust and particulate matter is related to weather conditions and wind direction, ground and particle characteristics and on-site activities. There is a potential for impacts to occur when dust

generating activities coincide with dry, windy conditions and where sensitive receptors are located downwind of the dust source.

- 3.7 Separation distance is an important factor as large particles ($>30\text{ }\mu\text{m}$) which are responsible for most dust annoyance largely deposit within 100m of sources. Intermediate particles ($10\text{-}30\text{ }\mu\text{m}$) can travel 200-500m but are less likely to trigger annoyance. Significant annoyance is therefore generally limited to a few hundred metres of the source. Small particles ($<10\text{ }\mu\text{m}$) are deposited slowly and may travel up to 1km. Whilst these particles are responsible for most impacts on human health, impacts are not likely to be experienced at significant distance due to dispersion effects.
- 3.8 The assessment of construction dust impacts has been carried out following the IAQM 'Guidance on the Assessment of Dust from Construction and Demolition' (Institute of Air Quality Management, 2014). Within this guidance, an 'impact' is described as a change in pollutant concentration or dust deposition and an 'effect' is described as the consequence of an impact.
- 3.9 The assessment considered three potential dust impacts:
- Loss of amenity due to dust soiling;
 - Human health effects due to an increase in concentrations of PM_{10} ; and
 - Harm caused to ecological receptors due to dust deposition.
- 3.10 Full details of the approach taken to assessing dust are provided in **Appendix B**, the stages of the assessment are:
- Identify whether there are sensitive receptors within the relevant distances (study area) for site activities during the construction phase;

- Assess the risk of dust impacts for each site activity type (demolition, earthworks, construction and trackout) – this includes identifying the emissions magnitude for each activity type, the sensitivity of the area and then combining these factors to identify risk;
- Identify mitigation measures, based on assessed risk, sufficient to ensure off-site impacts are not significant; and
- Assess impacts with mitigation in place. These should normally be 'not significant'.

3.11 The IAQM guidance makes it clear that no assessment of the significance of impacts without mitigation should be carried out as mitigation measures will be required due to planning conditions as well as best practice for construction companies. The IAQM guidance also states that the residual impact, taking into account the proposed mitigation will usually be 'not significant'.

Operational Road Traffic Impacts

3.12 The Sussex air quality guidance (Sussex Air Quality Partnership, 2020) includes a checklist to determine whether a development will be classed as 'Major', will impact on an AQMA or is located in an area close to exceeding the relevant air quality objectives. The revised development proposals have been reviewed in the context of this screening checklist and the level of assessment determined.

3.13 Where a development meets these requirements an 'air quality assessment' is required and impacts on local air quality should be assessed in accordance with the IAQM/EPUK guidance 'Land Use Planning and Development Control: Planning for Air Quality' (Institute of Air Quality Management and Environmental Protection UK, 2017) and appropriate mitigation identified to reduce emissions.

- 3.14 The IAQM / EPUK guidance includes a list of indicative criteria for where a detailed air quality assessment would be needed.
- 3.15 The criteria for screening air quality impacts relating to additional traffic are:
- An increase in LDV traffic of 500 AADT (or 100 AADT within or adjacent to an AQMA); or
 - An increase in HDV traffic of 100 AADT (or 25 AADT within or adjacent to an AQMA).
- 3.16 The above criteria applies to any individual link and therefore, a development generating over 500 AADT (or 100 AADT) may be considered to fall below the screening criteria where the increase is spread over a number of different road links.
- 3.17 The potential for air quality impacts on proposed sensitive receptors within the development is screened qualitatively, based on the development layout and location in relation to emission sources such as roads as well as baseline air quality.
- 3.18 Where it is not possible to screen out significant impacts from road sources, detailed modelling is then carried out.

Impact Assessment Criteria

- 3.19 In the absence of assessment criteria to determine the impact of existing sources of air pollution on proposed future receptors, the assessment has been limited to identifying whether future air quality will meet the objectives set out in **Table 2.1**.

4.0 BASELINE CONDITIONS

Site Context and Study Area

- 4.1 The proposal seeks to provide 30 new dwellings on the approved development site (WA/95/18/RES and WA/44/17/OUT) which was granted consent for a total of 175 dwellings. A total of 81 residential units were to be situated within the area proposed to be revised by this current planning application. The proposal will therefore provide a total of 111 dwellings incorporating 9 affordable units (an uplift of 30 dwellings from the approved 81 dwellings). Across the wider site this will deliver 205 new dwellings in total.
- 4.2 The site is approximately 3.8 ha in size and covers the middle and western areas of the wider development area between Yapton Lane to the east and Tye Lane to the west.
- 4.3 The site is bounded to the south by Walberton & Binsted Primary School and various residential properties within the village of Walberton. To the west there are open fields, to the north is the Hilton golf course and to the east residential development associated with the wider development area.
- 4.4 The study area in relation to air quality has been defined as:
- For the construction dust risk assessment, the study area is the area up to 350m from the development site boundary or roads on which dust and dirt may be tracked. This is based on the IAQM guidance (Institute of Air Quality Management, 2014).
 - For the operational phase traffic emission assessment, the study area incorporates receptors adjacent to roads expected to exceed the screening criteria set out in paragraph 3.15.
 - For the assessment of site suitability, the study area has been identified as the area within the boundary of the site and sources which will influence this area.

LAQM

- 4.5 ADC has assessed and reviewed air quality within its area boundary as part of its responsibilities under LAQM.
- 4.6 Air quality across the district is generally good and the Council have not identified any locations where the relevant air quality objectives are being exceeded. No AQMA has been declared within the district.

Monitoring

- 4.7 ADC carried out NO₂ monitoring using diffusion tubes at 21 locations across the district. None of these monitoring sites are within Walberton. The nearest are located to the south at Yapton and southwest at Barnham.
- 4.8 The location of the nearest two monitoring sites are identified in **Figure 4.1** and results for the last 3 years are shown in **Table 4.1**.

Table 4.1: Measured Annual Mean NO₂ Concentrations (µg/m³)

Site ID	Site Name	Site Type	2017	2018	2019
Yap19	Yapton	Roadside	17	17	15
Barn20	Barnham	Roadside	21	20	18
Objective			40		

2017 – 2019 data taken from (Arun District Council, 2020)



Figure 4.1: Local Monitoring Locations

- 4.9 Concentrations of NO₂ at both monitoring sites have been well below (<30µg/m³) the annual mean objective since 2017. Data from both locations also indicates a gradual downward trend in concentrations over the last three years.
- 4.10 Analysis of long-term monitoring data (Marner, 2003) suggests that if the annual mean NO₂ concentration is less than 60 µg/m³ then the one-hour mean NO₂ objective is unlikely to be exceeded where road transport is the main source of pollution. Therefore, in this assessment the annual mean concentration has been used to screen whether the one-hour mean objective is likely to be achieved as recommended within LAQM.TG(16).
- 4.11 Concentrations at all monitoring sites have been below 60 µg/m³ over the three years presented, suggesting that the 1-hour objective has been met.
- 4.12 Both monitoring sites are located at junctions; Yap19 at the junction between the B2233 Main Road and B2132 North End Road and Barn20 at the junction of Barnham Road, Yapton Road and Lake Lane. It is expected that due to slow moving and turning vehicles which generate higher emissions, NO₂ concentrations at both these locations are higher than concentrations adjacent to Yapton Lane and Tye Lane, which border the site to the east and west, respectively and both of which experience free flowing traffic.
- 4.13 There are no monitors measuring PM₁₀ and PM_{2.5} in Arun.

Predicted Background Concentrations

- 4.14 Predicted background concentrations have been obtained from national maps provided by Defra (Defra, 2020).
- 4.15 Predicted background concentrations are shown in **Table 4.2**.

- 4.16 The background concentrations are all well below the relevant objectives at the development site.

Table 4.2: Predicted Annual Mean Background Concentrations ($\mu\text{g}/\text{m}^3$)

Year	Location	NO₂	PM₁₀	PM_{2.5}
2020	497488, 106099	23.9	17.3	11.7
Objectives		40	40	25

5.0 IMPACT ASSESSMENT

Screening

Construction Dust

- 5.1 The primary potential effects during construction relate to annoyance and loss of amenity caused by dust soiling, health impacts relating to PM₁₀ and ecological impacts due to dust deposition.
- 5.2 Based on the screening criteria set out by the IAQM, it is considered necessary to carry out a construction dust risk assessment as there are sensitive human receptors within 350m of the development site boundary.
- 5.3 There are no ecological sites within 50m of the site boundary or roads along which dust may be tracked and therefore the assessment of dust deposition on ecological sites can be scoped out.

Operation Road Traffic

- 5.4 The revised application will provide a total of 111 residential dwellings on the site and is therefore classed as a 'Major' development according to the Sussex air quality guidance. The development has therefore been assessed in accordance with the EPUK/IAQM guidance. However, as there is only a net increase in 30 units, from the consented scheme only this uplift has been assessed.
- 5.5 The traffic associated with the revised development proposals have been considered for the assessment.
- 5.6 The consented scheme is for 81 residential units on the Site. The new application would provide a further 30 residential units with associated parking provision. The transport consultants for the project (ACE) have calculated that these additional units will result in

an additional 202 trips per day, associated with the additional 30 units.

- 5.7 The traffic generation associated with the uplift in residential units therefore falls below the EPUK / IAQM screening criteria and the impacts of operational traffic emissions on existing receptors can be considered 'not significant'. A detailed assessment is therefore not required.

Construction Dust Risk Assessment

Dust Emission Magnitude

- 5.8 The dust emission magnitude relating to Demolition, Earthworks, Construction and Trackout have been determined based on the IAQM guidance (as set out in **Appendix B**).
- 5.9 There are no buildings on the site that require demolition prior to construction. Impacts associated with demolition activities would therefore be negligible and have not been considered any further.
- 5.10 Proposed earthworks activities include excavating foundations for the proposed 111 residential units and earthmoving and storage of materials associated with landscaping and construction of the spine road. The area associated with earthmoving activities would extend up to approximately 38,000m² (the area of the site). The emission magnitude for earthworks has been identified as medium.
- 5.11 Construction will incorporate the construction of new residential buildings with an anticipated volume of between 85,000 to 95,000 m³. The main construction materials will be brick and concrete. The emission magnitude for construction is considered to be medium.
- 5.12 The number of vehicles exiting the site which may track material onto roads is unknown but, given the size and nature of the site, this is

expected to be between 15-20 HDVs a day. Based on this, the dust emission magnitude for trackout is considered to be medium.

Area Sensitivity

- 5.13 The sensitivity of the area to dust soiling and human health impacts has been assessed based on the criteria shown in **Appendix B**.
- 5.14 Residential properties, educational facilities, commercial premises and long-term car parks are considered to be sensitive to dust soiling. Walberton & Binsted Primary School is directly south of the site and there are approximately 5-6 existing residential dwellings within 50 m of the site boundary, although only 1-2 of these are within 20m of the site boundary. However, a number of areas consented under application WA/95/18/RES are under construction and if occupied prior to construction of the area included within the site, these would be sensitive to dust effects and considered as sensitive receptors. This would result in more than 10 residential receptors within 20 m of the site boundary. The sensitivity of the area surrounding the site to dust soiling is therefore considered to be high.
- 5.15 Construction vehicles will access the site from Yapton Lane and along the new spine road traversing the wider development area. Based on the emission magnitude it is considered that dust and mud may be tracked up to 250m along these roads from the site entrance. There are between 15-20 existing residential properties within 20 m of Yapton Lane, within 250m of the site entrance and there are over 20 properties adjacent to the spine road within the wider development area which would also be sensitive to dust effects once occupied. The sensitivity to dust soiling relating to trackout is therefore considered to be high.
- 5.16 Residential properties, schools, nursing homes and nurseries are considered to be high sensitivity receptors in terms of human health

impacts. PM₁₀ concentrations within the site and the surrounding homes are likely to be similar to the background PM₁₀ concentrations set out within the Defra background maps (shown in **Table 4.2**).

- 5.17 For the purposes of the construction dust risk assessment, the assumption has been made that concentrations of PM₁₀ across the study area are represented by the background PM₁₀ concentrations and are therefore <24 µg/m³. Taking into account the assumed baseline PM₁₀ concentrations and the number of sensitive receptors within 50m of the site and roads where trackout may occur, the sensitivity of the surrounding area to human health impacts is considered to be low.

Risk of Impacts

- 5.18 The risk of construction dust impacts, without mitigation, has been assessed based on the tables provided in **Appendix B** and the identified risks are shown in **Table 5.1**.

Table 5.1: Risk of Construction Dust Impacts Without Mitigation

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Negligible	Medium	Medium	Medium
Human Health	Negligible	Negligible	Negligible	Negligible

- 5.19 Overall, taking into consideration the risks set out in **Table 5.1**, appropriate mitigation measures corresponding to a 'medium risk' site are required during the demolition and construction phase of the development.
- 5.20 The recommended list of mitigation measures is set out in **Section 6.0**.

Site Suitability

Road Traffic

- 5.21 The site is located approximately 200 m west of Yapton Lane which is the main source of traffic emissions influencing air quality in the vicinity of the site and 20m east of Tye Lane, which will also influence air quality at the Site but experiences lower traffic flows than Yapton Lane.
- 5.22 Given the separation distances from the adjacent road network and expected traffic flows vehicle related emissions from nearby roads are not expected to significantly increase concentrations within the development area above background.

Impact Assessment

- 5.23 Background concentrations at the site are well below the relevant objectives as detailed in **Table 4.2**. Monitoring carried out at the nearest two monitoring sites are also well below the relevant objectives, as detailed in **Table 4.1**.
- 5.24 As previously discussed in paragraph 4.12, concentrations at both monitoring locations are expected to be higher than adjacent to Yapton Lane and Tye Lane due to higher emissions associated with slow moving and turning vehicles. It is therefore concluded that whilst emissions from these sources will increase concentrations at the site, this increase will not be significant and concentrations are not expected to be much higher than background concentrations. The site is therefore considered suitable for the proposed residential use.

6.0 MITIGATION

Construction Phase

- 6.1 The following standard mitigation measures have been identified as being appropriate for a medium risk site.
- 6.2 This is based on the recommendations within the IAQM guidance (Institute of Air Quality Management, 2014). An Air Quality and Dust Management Plan should be submitted to ADC prior to works commencing on site.

Site Management

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- 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.
- Display the head or regional office contact information.
- Record and respond to all dust and air quality pollutant emission complaints.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust or air emissions and the action taken to resolve the issue within the log book.
- Record any exceptional incidents that cause dust and air quality pollutant emissions, either on- or off- site, and the action taken to resolve the situation in the log book.

Monitoring

- 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. (Optional)
- Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by those 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.
- 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. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.

Preparing and Maintaining the Site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.

- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials from site as soon as possible.
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicle/Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced haul roads and work areas. (Desirable)
- Produce a construction logistics plan to manage the sustainable delivery of goods and materials.
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing). (Desirable)

Operations

- 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.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.

- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- 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

- Avoid bonfires and burning of waste materials.
- Reuse and recycle waste to reduce dust from waste materials.

Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil as soon as practicable.
- Only remove the cover in small areas during work and not all at once.

Construction

- Avoid scabbling (roughening of concrete surfaces) if possible.
- 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.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. (Desirable)

- For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust. (Desirable)

Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul roads for integrity and instigate necessary repairs to the surfaces as soon as possible;
- Record all inspections of haul routes and subsequent action in log book;
- Install hard surfaced haul routes within the site, where possible, and regularly damp down with fixed or mobile sprinkler system, or mobile water bowsers and regularly clean;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaces road between the wheel wash facility and the site exit.

Operational Phase

- 6.3 Air quality for future residents is considered to be good and no additional mitigation is required.
- 6.4 The development impact is expected to be not significant and no further mitigation of potential impacts is therefore required.

6.5 However, as required by the Sussex air quality planning guidance the following mitigation measures will be implemented:

- Where gas fired boilers are installed these will meet a minimum standard of <40mgNO_x/kWh.
- Electric vehicle charging points as required within the West Sussex County Council Guidance on Parking at New Developments (West Sussex County Council, 2020).

7.0 CONCLUSIONS

- 7.1 The potential air quality impacts associated with the proposed new application for development of land at Tye Lane, Walberton been assessed.
- 7.2 There is the potential for dust and PM₁₀ impacts during the construction phase, however, with the proposed mitigation measures in place, these impacts will be not significant.
- 7.3 The traffic generation associated with the development is below the relevant criteria and therefore, the impact of the development on local air quality is considered to be not significant.
- 7.4 The impact of local air quality on future residents of the development has been considered. Due to the separation distances from the nearest emission sources, air quality at the site is expected to be similar to background concentrations and therefore well below any relevant air quality objectives. The site is therefore considered suitable for residential development.
- 7.5 In accordance with the Sussex air quality planning guidance the following mitigation measures will be implemented the reduce emissions:
- Where gas fired boilers are installed these will meet a minimum standard of <40mgNO_x/kWh.
 - Electric vehicle charging points as required within the West Sussex County Council Guidance on Parking at New Developments (West Sussex County Council, 2020).

- 7.6 Overall, it is concluded that there are no air quality constraints to the proposed development which is in accordance with local, regional and national policy and guidance.

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Appendix A Glossary

Abbreviations	Meaning
AADT	Annual Average Daily Traffic
ACE	Ardent Consulting Engineers
Arun District Council	ADC
AQA	Air Quality Assessment
AQMA	Air Quality Management Area
CEMP	Construction Environmental Management Plan
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
Diffusion Tube (DT)	A passive sampler used for collecting NO ₂ in the air
EA	Environment Agency
EC	European Commission
EFT	Emission Factor Toolkit
EPUK	Environmental Protection UK
GIA	Gross Internal Area
GLA	Greater London Authority
HDV	Heavy Duty Vehicle; a vehicle with a gross vehicle weight greater than 3.5 tonnes, includes Heavy Goods Vehicles and buses
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LGV	Light Goods Vehicle
m ² /m ³	Square Metres/Metres Cubed
NAQO	National Air Quality Objective as set out in Air Quality Strategy and the Air Quality Regulations
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides, generally considered to be nitric oxide and NO ₂ . The main source is from combustion of fossil fuels, including petrol and diesel used in road vehicles and natural gas used in gas-fired boilers.
NPPF	National Planning Policy Framework
PM ₁₀ or PM _{2.5}	Small airborne particles less than 10/2.5 µg in diameter
PPG	Planning Practice Guidance
Receptor	A location where the effects of pollution may occur

Appendix B Dust Assessment Approach

B1 Step 1: Screen the need for an assessment

B1.1 Step 1 is the screen the need for an assessment against the following criteria:

- 'Human receptor' within:
 - 350 m of the boundary of the site; or
 - 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s).
- 'Ecological receptor' within:
 - 50 m of the boundary of the site; or
 - 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s).

B1.2 Where there are no sensitive receptors within these distances, it can be concluded that the impact is negligible and no further assessment relating to construction dust impacts is required.

B2 Step 2: Assess the risk of dust impacts

B2.1 The risk of dust at sufficient quantum to cause annoyance/health/ecological impacts should be based on:

- The scale and nature of the works (potential dust emission magnitude) (**Table B.1**); and
- The sensitivity of the area to dust impacts based on the matrices shown in **Table B.2**, **Table B.3** and **Table B.4**.

B2.2 These factors are then combined to determine the risk of dust impacts without mitigation applied for each of the four activities

(Demolition, Earthworks, Construction and Trackout) following the matrices shown in **Table B.5**, **Table B.6** and **Table B.7**.

Table B.1: Potential Dust Emission Magnitude

Size	Definition
Demolition	
Small	Total building volume <20,000 m ³ , construction material with low potential for dust release (eg metal cladding or timber), demolition activities <10 m above ground, demolition during wetter months.
Medium	Total building volume 20,000 m ³ – 50,000 m ³ , potentially dusty construction material, demolition activities 10-20 m above ground level.
Large	Total building volume >50,000 m ³ , potentially dusty construction material (eg. Concrete), on-site crushing and screening, demolition activities >20 m above ground level.
Earthworks	
Small	Total site area <2,500 m ² , soil type with large grain size (eg sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <20,000 tonnes earthworks during wetter months.
Medium	Total site area 2,500 m ² – 10,000 m ² , moderately dusty soil type (eg silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m – 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes.
Large	Total site area >10,000 m ² , potentially dusty soil type (eg clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >8 m in height.
Construction	
Small	Total building volume <25,000 m ³ , construction material with low potential for dust release (eg metal cladding or timber).
Medium	Total building volume 25,000 m ³ – 100,000 m ³ , potentially dusty construction material (eg concrete), on site concrete batching.
Large	Total building volume >100, 000 m ³ , on site concrete batching, sandblasting.
Trackout	
Small	<10 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50 m.
Medium	10-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (eg high clay

	content), unpaved road length 50 m – 100 m.
Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (eg high clay content), unpaved road length >100 m.

Table B.2: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	<10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table B.3: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<350
High	>32 µg/m ³	>100	High	High	High	Low
		10-100	High	High	Medium	Low
		<10	High	Medium	Low	Low
	28-32 µg/m ³	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		<10	High	Medium	Low	Low
	24-28 µg/m ³	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		<10	Medium	Low	Low	Low
	<24 µg/m ³	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		<10	Low	Low	Low	Low
Medium	>32 µg/m ³	>100	High	Medium	Low	Low
		10-100	Medium	Low	Low	Low
		<10	Medium	Low	Low	Low
	28-32 µg/m ³	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		<10	Low	Low	Low	Low
	24-28 µg/m ³	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		<10	Low	Low	Low	Low
	<24 µg/m ³	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		<10	Low	Low	Low	Low

Low	-	≥1	Low	Low	Low	Low
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Table B.4: Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Table B.5: Risk of Impacts – Demolition

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table B.6: Risk of Impacts – Earthworks and Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table B.7: Risk of Impacts – Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

B3 Step 3: Site-specific Mitigation

B3.1 Based on the outcome of Step 2, appropriate mitigation measures are recommended. The guidance includes a list of mitigation measures for Low, Medium and High-Risk sites but final recommendations should be based on professional judgement and take into account particular site sensitivities and differences in risk for different activities or areas of the site. The mitigation recommended in the guidance are shown in **Table B.8**.

Table B.8: Mitigation Measures

(H = Highly Recommended, D = Desirable and N = Not Recommended)

Mitigation Measure	Low Risk	Medium Risk	High Risk
Communications			
1. Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	N	H	H
2. 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.	H	H	H
3. Display the head or regional office contact information	H	H	H
Dust Management			
4. Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The DMP may include monitoring of dust deposition, dust flux, realtime PM ₁₀ continuous monitoring and/or visual inspections.	D	H	H
Site Management			
5. 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.	H	H	H
6. Make the complaints log available to the local authority when asked.	H	H	H

7. 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.	H	H	H
8. Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.	N	N	H
Monitoring			
9. 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.	D	D	H
10. 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	H	H	H
11. 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.	H	H	H
12. 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. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.	N	H	H
Preparing and maintaining the site			
13. Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	H	H	H
14. Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	H	H	H
15. Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period	D	H	H
16. Avoid site runoff of water or mud.	H	H	H
17. Keep site fencing, barriers and scaffolding clean using wet methods.	D	H	H
18. 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.	D	H	H
19. Cover, seed or fence stockpiles to prevent wind whipping.	D	H	H

Operating vehicle/machinery and sustainable travel			
20. Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable	H	H	H
21. Ensure all vehicles switch off engines when stationary - no idling vehicles.	H	H	H
22. Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	H	H	H
23. 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)	D	D	H
24. Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.	N	H	H
25. Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)	N	D	H
Operations			
26. 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.	H	H	H
27. Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	H	H	H
28. Use enclosed chutes and conveyors and covered skips.	H	H	H
29. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	H	H	H
30. 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.	D	H	H
Waste Management			
31. Avoid bonfires and burning of waste materials.	H	H	H
Demolition			
32. Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).	D	D	H
33. Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems,	H	H	H

manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.			
34. Avoid explosive blasting, using appropriate manual or mechanical alternatives.	H	H	H
35. Bag and remove any biological debris or damp down such material before demolition.	H	H	H
Earthworks			
36. Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	N	D	H
37. Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable	N	D	H
38. Only remove the cover in small areas during work and not all at once.	N	D	H
Construction			
39. Avoid scabbling (roughening of concrete surfaces) if possible	D	D	H
40. 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.	D	H	H
41. Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.	N	D	H
42. For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.	N	D	D
Trackout			
43. 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.	D	H	H
44. Avoid dry sweeping of large areas.	D	H	H
45. Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	D	H	H
46. Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	N	H	H
47. Record all inspections of haul routes and any subsequent action in a site log book.	D	H	H
48. Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	N	H	H
49. Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	D	H	H

50. Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.	N	H	H
51. Access gates to be located at least 10 m from receptors where possible.	N	H	H

B4 Step 4: Determine Significant Effects

B4.1 Recommended mitigation measures should be sufficient to ensure that the impact is normally 'not significant'. There may at times be limitations to appropriate mitigation measures (such as lack of water) and therefore, an assessment should always be made based on the characteristic of each site and the surrounding area.

B5 Step 5: Dust Assessment Report

B5.1 The dust assessment report should include enough detail to ensure that the basis for the determination of emission magnitude and sensitivity of the area, and therefore the site risk, are clear. The required mitigation so also be set out within the report, along with a description of the mechanism that will ensure that the appropriate level of mitigation will be implemented (such as through a planning condition).