ALDI Stores Ltd

Proposed ALDI Development, Hostmoor Avenue, March, Cambridgeshire, PE15 0AX

Air Quality Assessment

Project No: 444455-03

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RSK GENERAL NOTES

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Title: Proposed ALDI Development Hostmoor Avenue, March, Cambridgeshire, PE15 0AX - Air Quality Assessment

Client: ALDI Stores Ltd

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Summary

RSK Environment Ltd (RSK) was commissioned by ALDI Stores Ltd to undertake an air quality assessment as part of the planning process for an ALDI development and associated access works at 1-3 Hostmoor, March, Cambridgeshire, PE15 0AX. Apart from the erection of the ALDI store (Class Ea), the proposed development comprises the formation of a new access and associated highway works, involving the demolition of existing storage buildings (Class B8).

The proposed development site comes under the administrative area of Fenland District Council (FDC), and is not located within an air quality management area (AQMA). The estimated background air pollutant concentrations at the proposed development site are considered likely to be within relevant air quality standards. Therefore, air quality is not considered to be a concern to the development proposals.

Construction phase impacts of the proposed development on local air quality may potentially arise due to fugitive dust emissions during the period of construction. The risk of dust impacts (without mitigation) was assessed according to a widely used method published by the Institute of Air Quality Management (IAQM) and found to be 'low risk'. Mitigation measures appropriate to the construction phase will be specified by a dust management plan (DMP) agreed with FDC; therefore, significant residual effects are not anticipated.

The Transport Consultants for the project, Connect Consultants Ltd, have identified that a maximum of 323 vehicles, expressed as AADT24, are generated on any of the existing roads near to the proposed development during the operational phase. No vehicles generated by this proposed food store are anticipated to pass through the Air Quality Management Areas (AQMAs) declared by FDC. An Aldi store typically receives an average of four HGV deliveries per day. Three articulated HGV deliveries per day come from the Regional Distribution Centre (RDC) and there is one delivery per day of milk by a local supplier, usually using a medium sized goods vehicle.

Daily deliveries of milk, bread and morning fresh produce are received prior to, or as early as possible after, the store opening in the morning, and are delivered by one Aldi HGV and one milk delivery vehicle. In addition to goods deliveries, each store has 1-2 collections of General Waste and Animal By-products per week.

In view of the above, no significant change in existing road traffic, vehicle speed, car parking spaces or the number of HGVs has been identified. Therefore, the impact from traffic generated by the proposed development is not considered to be significant and a quantitative air quality assessment is not considered to be required. A qualitative impact assessment has been undertaken for the operational phase as per the IAQM guidance - Land-Use Planning & Development Control: Planning for Air Quality' in 2017 (herein the 'EPUK-IAQM guidance'. No significant operational phase air quality impacts are anticipated.

However, to minimise the potential operational phase impacts, mitigation measures have been identified which included 4x electric charging spaces and 20 passive spaces.

No significant stationary combustion sources such as combined heat and power (CHP) plants or biomass boilers are proposed within the development.

On the basis of this assessment, the proposed development is unlikely to be adversely affected by or have a significant impact on local air quality. Therefore, air quality is considered to be a low priority concern for the proposed development.

Abbreviations

AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
CHP	Combined Heat and Power
CO	Carbon Monoxide
DEFRA	Department for Environment, Food and Rural Affairs
DMP	Dust Management Plan
EC	European Commission
EPUK	Environmental Protection UK
EU	European Union
GLA	Greater London Authority
FDC	Fenland District Council
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
NAQS	National Air Quality Strategy
NPPF	National Planning Policy Framework
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
O_3	Ozone
$PM_{2.5}$	Particulate matter of size fraction approximating to <2.5mm diameter
PM_{10}	Particulate matter of size fraction approximating to <10mm diameter
VOC	Volatile Organic Compounds

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APPENDICES

1 INTRODUCTION

1.1 Background

RSK were commissioned by ALDI Stores Limited to undertake an air quality assessment of the potential air quality impacts associated with a proposed ALDI store at 1-3 Hostmoor, March, Cambridgeshire, PE15 0AX. Figure 1-1 shows the proposed site location.

Apart from the erection of the ALDI store (Class Ea), the proposed development comprises the formation of a new access and associated highway works, involving the demolition of existing storage buildings (Class B8). The site is within the jurisdiction of Fenland District Council (FDC).

This report presents the findings of an assessment of existing/baseline air quality conditions, potential air quality impacts during the construction phase of the proposed development and anticipated impacts on local air quality resulting from traffic emissions generated by the development once it is fully operational.

Figure 1-1: Proposed Development Site Location

2 LEGISLATION, PLANNING POLICY & GUIDANCE

2.1 Key Legislation

2.1.1 Air Quality Strategy

UK air quality policy is published under the umbrella of the Environment Act 1995, Part IV and specifically Section 80, the National Air Quality Strategy. The latest *Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working Together for Clean Air*, published in July 2007 sets air quality standards and objectives for ten key air pollutants to be achieved between 2003 and 2020.

The EU Air Quality Framework Directive (1996) established a framework under which the EU could set limit or target values for specified pollutants. The directive identified several pollutants for which limit or target values have been, or will be set in subsequent 'daughter directives'. The framework and daughter directives were consolidated by Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe, which retains the existing air quality standards and introduces new objectives for fine particulates ($PM_{2.5}$).

2.1.2 Air Quality Standards

The air quality standards (AQSs) in the United Kingdom are derived from EC directives and are adopted into English law via the Air Quality (England) Regulations 2000 and Air Quality (England) Amendment Regulations 2002. The Air Quality Limit Values Regulations 2003 and subsequent amendments implement the Air Quality Framework Directive into English Law. Directive 2008/50/EC was translated into UK law in 2010 via the Air Quality Standards Regulations 2010. The European Union (Withdrawal) Act retains existing EU environmental provisions in the UK.

The relevant[1] standards to protect human health are summarised in Table 2.1.

Table 2.1: Air Quality Standards Relevant to the Proposed Development

Substance	Averaging period	Exceedances allowed per year	Ground level concentration limit ($\mu g/m^3$)
Nitrogen dioxide (NO_2)	1 calendar year	-	40
	1 hour	18	200
Fine particles (PM_{10})	1 calendar year	-	40
	24 hours	35	50
Fine particles ($PM_{2.5}$)	1 year	-	25

[1] Relevance, in this case, is defined by the scope of the assessment.

2.1.3 The Environment Act

These objectives are to be used in the review and assessment of air quality by local authorities under Section 82 of the Environment Act (1995). If exceedances are measured or predicted through the review and assessment process, the local authority must declare an Air Quality Management Area (AQMA) under Section 83 of the act, and produce an Air Quality Action Plan (AQAP) to outline how air quality is to be improved.

2.1.4 Planning Policy

The land use planning process is a key means of improving air quality, particularly in the long term, through the strategic location and design of new developments. Any air quality concern that relates to land use and its development can, depending on the details of the proposed development, be a material consideration in the determination of planning applications.

2.1.5 National Planning Policy Framework

In 2019 the revised National Planning Policy Framework (NPPF) was published, superseding the previous NPPF with immediate effect. The NPPF includes a presumption in favour of sustainable development.

Section 15 of the NPPF deals with Conserving and Enhancing the Natural Environment, and states that the intention is that the planning system should prevent '*development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability*' and goes on to state that '*new development* [should be] *appropriate for its location' and 'the effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account*.'

With specific regard to air quality, the NPPF states that: *"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."*

2.1.6 Local Planning Policy

The main source of air pollution in Fenland District is from vehicle emissions, although emissions from households including open fires also contribute. Policy LP16 of FDC's Local Plan, adopted in May 2014, states that:

Policy LP16 – Delivering and Protecting High Quality Environments across the District

High quality environments will be delivered and protected throughout the district. Proposals for all new development, including where appropriate advertisements and extensions and alterations to existing buildings, will only be permitted if it can be demonstrated that the proposal meets all of the following relevant criteria:

> *l) identifies, manages and mitigates against any existing or proposed risks from sources of noise, **emissions**, pollution, contamination, odour and **dust**, vibration, landfill gas and protects from water body deterioration.*

2.1.7 Guidance on the Assessment of Dust from Demolition and Construction

The Institute of Air Quality Management (IAQM) published a guidance document (Holman *et al*., 2014) on the assessment of construction phase impacts (herein the 'IAQM construction dust guidance'). The guidance was produced to provide advice to developers, consultants and environmental health officers on how to assess the impacts arising from construction activities. The emphasis of the methodology is on classifying sites according to the risk of impacts (in terms of dust nuisance, PM_{10} impacts on public exposure and impact upon sensitive ecological receptors) and to identify mitigation measure appropriate to the level of risk identified.

2.1.8 Local Air Quality Management Review and Assessment Technical Guidance

The Department for Environment, Food and Rural Affairs (Defra) has published technical guidance for use by local authorities in their air quality review and assessment work. This guidance, referred to in this document as the Local Air Quality Management Technical Guidance (Defra, 2016) ('LAQM TG.16').

2.1.9 Land-Use Planning & Development Control: Planning for Air Quality

Environmental Protection UK's (EPUK) and the IAQM jointly published a revised version of the guidance note 'Land-Use Planning & Development Control: Planning for Air Quality' in 2017 (herein the 'EPUK-IAQM guidance') to facilitate consideration of air quality within local development control processes. It provides a framework for air quality considerations, promoting a consistent approach to the treatment of air quality issues within development control decisions.

The guidance includes methods for undertaken an air quality assessment and an approach for assessing the significance of effects. The guidance note is widely accepted as an appropriate reference method for this purpose.

3 ASSESSMENT SCOPE

3.1 Overall Approach

An air quality assessment has been undertaken, and the approach taken for assessing the potential air quality impacts of the proposed development may be summarised as follows:

Baseline characterisation of local air quality;

Qualitative impact assessment of the construction phase of the development;

Qualitative assessment of air quality impacts during the operational phase of the proposed development; and

Recommendation of mitigation measures, where appropriate, to ensure any adverse effects on air quality are minimised.

3.2 Baseline Characterisation

Existing or baseline air quality refers to the concentrations of relevant substances that are already present in ambient air. These substances are emitted by various sources, including road traffic, industrial, domestic, agricultural and natural sources.

A desk-based study has been undertaken including a review of monitoring data available from FDC and estimated background data from the LAQM Support website maintained by Defra. Background concentrations have been mapped by Defra at a grid resolution of 1x1km for the whole of the UK. Consideration has also been given to potential sources of air pollution and any AQMAs in the vicinity of the application site.

3.3 Construction Phase Assessment

3.3.1 Construction Dust and Particulate Matter

Construction works for the proposed development have the potential to lead to the release of fugitive dust and particulate matter. An assessment of the likely significant effects of construction phase dust and particulate matter at sensitive receptors has therefore been undertaken following the IAQM's construction dust guidance.

Three separate dust impacts were considered:

Annoyance to dust soiling;

The risk of health effects due to an increase in exposure to PM_{10}; and

Harm to ecological receptors.

In order to assess the potential impacts of construction, activities are divided into four types:

Demolition;

Earthworks;

Construction; and

Trackout[2].

The risk of dust and PM_{10} arising to cause disamenity and/or health or ecological impacts was based on an assessment of likely emissions magnitude and the sensitivity of the surrounding environment. The risk category may be different for each of the four 'construction' activities.

Appendix A sets out the construction dust assessment methodology in detail as per IAQM construction dust guidance. Once the level of risk has been determined, then site specific mitigation proportionate to the level of risk can be identified (as detailed in Appendix B).

The Magic Map application available online by Defra was used to identify statutory ecological receptors near the proposed development site area.

3.3.2 Emissions to Air from Construction Traffic and Plant

Exhaust emissions from construction phase vehicles and plant may have an impact on local air quality adjacent to the routes used by these vehicles to access the proposed development site and in the vicinity of the proposed development site itself. Detailed information on the number of vehicles and plant associated with the construction phase is not available at this stage (and would not be until after appointment of the main construction contractors). Therefore, a qualitative impact assessment has been undertaken based on professional judgement and considering the following factors:

The likely duration of the construction phase;

The potential number and type of construction traffic and plant that could be required; and

The number and proximity of sensitive receptors to the proposed development site and along the likely construction vehicle routes.

3.4 Operational Phase Impact Assessment

3.4.1 Emissions to Air from Operational Phase Traffic

The EPUK-IAQM guidance provides indicative criteria for when an air quality assessment is required, if none of the criteria are exceeded, it is considered unlikely

[2] Trackout is defined as the transport of dust and dirt from the construction / demolition sites onto public road network, where it may be deposited and then re-suspended by vehicles using the network.

that there will be any significant impacts on air quality during the operational phase. A screening level assessment against these criteria has been undertaken in Section 5 of this report.

3.4.2 Exposure of Future Occupants to Air Pollution

The potential exposure of future users of the proposed development has been considered by reviewing the baseline conditions (Section 4) and the locations of sensitive receptors within the proposed development, as well as considering the EPUK-IAQM guidance.

It is understood that no significant combustion sources such as combined heat and power (CHP) plant or biomass boilers are proposed as part of the scheme. Therefore, this report has not considered emissions related to energy generation any further.

4 BASELINE AIR QUALITY CHARACTERISATION

Existing or baseline air quality refers to the concentrations of relevant substances that are already present in ambient air. These substances are emitted by various sources, including road traffic, industrial, domestic, agricultural and natural sources. Baseline air quality data employed in this study have been obtained from continuous and diffusion tube monitoring stations maintained by FDC and from the LAQM Support website operated by the Department for Environment, Food and Rural Affairs (Defra).

4.1 Emissions Sources and Key Air Pollutants

Transport-related emissions are one of the main sources of air pollution in urban areas. The principal pollutants relevant to this assessment are considered to be NO_2 and PM_{10}, generally regarded as the two most significant air pollutants released by vehicular combustion processes, or subsequently generated by vehicle emissions in the atmosphere through chemical reactions. These pollutants are generally considered to have the greatest potential to result in human health impacts, and are the substances of most concern in terms of existing levels in the area, as discussed below.

4.2 Presence of AQMAs

FDC has declared four Air Quality Management Areas (AQMAs), three in Wisbech for SO_2, PM_{10} and NO_2, and one in Whittlesey for SO_2. The nearest one, Wisbech AQMA, is more than seven miles from the proposed development site. Hence, the site is not in any of the AQMAs.

4.3 Baseline Monitoring Data

According to the FDC's 2020 Air Quality Annual Status Report (ASR), there were two automatic monitoring stations in the council; however, the nearest one is over 8.6 miles away from the site. There was a network of 25 diffusion tube monitoring locations in 2019 from the ASR. The closest monitoring location to the proposed site is a diffusion tube on Station Road, March (S2) approximately 1.8km from the proposed development site. It is noted that five diffusion tube locations are located within 3km of the proposed development site. The annual average NO_2 concentrations for these five diffusion tube sites, for years 2015 - 2019, are reproduced in Table 4-1. The data from these tubes show that there were no exceedances of the annual mean NO2 AQS during 2015 – 2019 at the five monitoring locations.

Particulate matter monitoring data is not available in the vicinity (within 3km) of the site.

Table 4-1: Annual Mean Measured Pollutant Concentrations at the Monitoring Locations within 3km of the Proposed Development Site

Site ID	Location	Site type	Approximate Distance from Site (km)	Annual Mean NO_2 Concentrations ($\mu g/m^3$)				
				2015	2016	2017	2018	2019
S2	March Station Road	Roadside	1.8	17.2	21.4	22.8	19.99	20.3
S19	Broad St March	Roadside	2.0	34	33.3	35.8	30.09	28.7
S21	Norfolk Court	Kerbside	2.0	-	-	-	19.06	20.2
S24	Hocking Court	Kerbside	2.0	-	-	-	26.2	26.5
S11	High Street March	Roadside	2.4	22.6	21.4	19.9	20.5	19.4
Air Quality Objective				**40**				

4.4 LAQM Background Data

In addition to the local monitoring data, estimated background air quality data available from the LAQM-Tools website, may also be used to establish likely background air quality conditions at the proposed development site.

This website provides estimated annual average background concentrations of NO_2, PM_{10} and $PM_{2.5}$ on a $1km^2$ grid basis. Table 4.2 identifies estimated annual average background concentrations for the grid square containing the proposed development site for years from 2020 to 2022. No exceedances of the NO_2, PM_{10} or $PM_{2.5}$ annual mean AQSs are predicted.

Table 4.2: Estimated Background Annual Average NO_2, PM_{10} and $PM_{2.5}$ Concentrations at Proposed Development Site

Assessment Year	Estimated Annual Average Pollutant Concentrations Derived from the LAQM Website (µg/m^3)		
	Annual Average NO_2	Annual Average PM_{10}	Annual Average $PM_{2.5}$
2020	8.7	15.4	9.3
2021	8.4	15.3	9.1
2022	8.2	15.1	9.0
Air Quality Objective	**40**	**40**	**25***

Note: Presented concentrations for 1 km^2 grid centred on 540500, 298500; approximate centre of development site is 540196, 298108.

4.5 Background Air Quality at the proposed site

The EPUK-IAQM guidance indicates that the annual mean PM_{10} concentrations tend to be greater than ~31µg/m^3 for an exceedance of the daily mean PM_{10} AQS to be likely.

LAQM TG.16 indicates that the annual mean NO_2 concentrations tend to be greater than 60µg/m^3 for an exceedance of the hourly mean NO_2 AQS to be likely. Based on the monitoring data available and the estimated background concentrations of NO_2, PM_{10} and $PM_{2.5}$, it is considered unlikely that annual mean or short-term NO_2 and PM_{10} AQSs would be exceeded at or in close proximity to the proposed development site.

On this basis, no exceedances of any of the relevant AQSs are anticipated at the site; therefore, the impact of existing ambient air quality on any receptors to be introduced at the site is likely to be insignificant.

5 ASSESSMENT OF IMPACTS

5.1 Construction Phase

Atmospheric emissions from construction activities will depend on a combination of the potential for emissions (the type of activity and prevailing conditions) and the effectiveness of control measures. In general terms, there are two sources of emissions that will need to be controlled to minimise the potential for adverse environmental effects:

exhaust emissions from site plant, equipment and vehicles; and

fugitive dust emissions from site activities.

5.1.1 Exhaust Emissions from Plant and Vehicles

The operation of vehicles and equipment powered by internal combustion engines results in the emission of exhaust gases containing the pollutants NO_x, PM_{10}, volatile organic compounds (VOCs) and carbon monoxide (CO). The quantities emitted depend on factors such as engine type, service history, pattern of usage and fuel composition. The operation of site equipment, vehicles and machinery will result in emissions to atmosphere of exhaust gases, but such emissions are unlikely to be significant, particularly in comparison to levels of similar emission components from vehicle movements on the local road network surrounding the development site.

Construction traffic will comprise haulage/construction vehicles and vehicles used for workers' trips to and from the site.

5.1.2 Fugitive Dust Emissions

Fugitive dust emissions arising from construction activities are likely to be variable in nature and will depend upon the type and extent of the activity, soil type and moisture content, road surface conditions and weather conditions. Periods of dry weather combined with higher than average wind speeds have the potential to generate more dust.

Fugitive dust arising from construction and demolition activities is mainly of a particle size greater than the PM_{10} fraction (that which can potentially impact upon human health). However, it is noted that demolition and construction activities may contribute to local PM_{10} concentrations. Appropriate dust control measures can be highly effective for controlling emissions from potentially dust generating activities identified above, and adverse effects can be greatly reduced or eliminated.

See Appendix A for further explanation of the tendency of dust to remain airborne.

5.1.3 Potential Dust Emission Magnitude

With reference to the IAQM guidance criteria outlined in Appendix A, the dust emissions magnitude for demolition, earthworks, construction and trackout activities are summarised in Tables 5.1, 5.2, 5.3 and 5.4. Risk categories for the four construction activities are summarised in Table 5.5.

Worst-case assumptions have been made, where information is not currently available, for a conservative assessment.

Table 5.1: Summary of Dust Emissions Magnitude of Demolition Activities (Before mitigation)

Demolition Criteria	Dust Emissions Class	Evaluation of the Effects
Total volume of buildings to be demolished	Small	12,616 m^3
On-site crushing and screening	Large	Yes
Height of demolition activities above ground	Small	<10 m
Dust potential of demolition materials	Large	Concrete
Overall Rating	**Medium**	Conservative Rating based on professional judgement

Table 5.2: Summary of Dust Emissions Magnitude of Earthworks Activities (Before mitigation)

Earthworks Criteria	Dust Emissions Class	Evaluation of the Effects
Total site area	Medium	2,500 – 10,000m^2 site area
Soil type	Large	Clay
Earth moving vehicles at any one time	Small	<5
Height of bunds	Small	<4m
Total material moved	Small	<20,000 tonnes
Work times	Medium	Earthworks potential to be March/April
Overall Rating	**Medium**	Conservative rating based on professional judgement

Table 5.3: Summary of Dust Emissions Magnitude of Construction Activities (Before mitigation)

Construction Criteria	Dust Emissions Class	Evaluation of the Effects
Total building volume	Small	12,600m^3
On-site concrete batching or sandblasting proposed	Small	No

Construction Criteria	Dust Emissions Class	Evaluation of the Effects
Dust potential of construction materials	Medium	Potentially dusty construction materials
Overall Rating	**Medium**	Conservative rating

Table 5.4: Summary of Dust Emissions Magnitude of Trackout Activities (Before mitigation)

Trackout Criteria	Dust Emissions Class	Evaluation of the Effects
Number of HDV>3.5t per day	Medium	10-50
Surface type of the site	Medium	Clay
Length of unpaved road	Small	<50m
Overall Rating	**Medium**	Conservative rating

Table 5.5: Summary of Dust Emission Magnitude of the Site (Before mitigation)

Construction Activities	Dust Emissions Class
Demolition	Medium
Earthworks	Medium
Construction	Medium
Trackout	Medium

5.1.4 Sensitivity of the Area

As per the IAQM Guidance, the sensitivity of the area takes into account a number of factors, including:

The specific sensitivities of receptors in the area;

The proximity and number of those receptors;

In the case of PM_{10}, the local background concentration; and

Site specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.

Consideration is given to human and ecological receptors from the impact of the development, distances are calculated from the construction site boundary and the trackout route proposed. Where necessary, for example, the trackout route is not yet known, a conservative view on the likely route has been taken.

Construction and trackout 'buffers' were used to identify the sensitivity of the area (refer to Figure 5.1 and Figure 5.2). Table 5.6 presents the determined significance of the area. Construction activities are relevant up to 350m from the proposed development site boundary whereas trackout activities are only considered relevant up to 50m from the edge of the road, as per the IAQM guidance. Only 20m and 50m buffers have been included for trackout for this reason. Figures 5.1 and 5.2 show maps indicating the earthworks/construction and trackout buffers, respectively, for identifying the sensitivity of the area.

There are no ecological statutory sites within 350m of the site boundary. The closest is the Ring's End, a Local Nature Reserve (LNR) which is located around 2.6km from the proposed development site boundary.

Table 5.6: Sensitivity of the area

Potential Impact		Sensitivity of the surrounding area			
		Demolition	Earthworks	Construction	Trackout
Dust soiling	Receptor sensitivity	High	High	High	Medium
	Number of receptors	1-10	1-10	1-10	>1
	Distance from the source	<100	<100	<100	<20m
	Sensitivity of the area	**Low**	**Low**	**Low**	**Medium**
Human health	Receptor sensitivity	High	High	High	Medium
	Annual mean PM_{10} concentration	<24μg/m^3	<24μg/m^3	<24μg/m^3	<24μg/m^3
	Number of receptors	1-10	1-10	1-10	1-10
	Distance from the source	<100	<100	<100	<20m
	Sensitivity of the area	**Low**	**Low**	**Low**	**Low**
Ecological	Receptor sensitivity	Low	Low	Low	Low
	Distance from the source	LNR located approx. 2.6km away	LNR located approx. 2.6km away	LNR located approx. 2.6km away	LNR located approx. 2.6km away
	Sensitivity of the area	**Low**	**Low**	**Low**	**Low**

5.1.5 Risk of Impacts

The dust emission magnitude is combined with the sensitivity of the area to determine the risk of impacts of construction activities before mitigation; these are evaluated based on risk categories of each activity in Appendix A. The risk of dust impacts from construction activities is identified in

Table 5.7.

Site specific mitigation measures to reduce construction phase impacts are defined based on this assessment in Section 6 and Appendix B.

Table 5.7: Summary of the Dust Risk from Construction Activities

Potential Impact	Dust Risk Impact			
	Demolition	Earthworks	Construction	Trackout
Dust soiling	Low Risk	Low Risk	Low Risk	Low Risk
Human health	Low Risk	Low Risk	Low Risk	Low Risk
Ecological	Low Risk	Low Risk	Low Risk	Low Risk

Figure 5.1: Demolition/Earthworks/Construction Activities Buffer Map

Figure 5.2: Trackout Activities Buffer Map

5.2 Operational Phase

5.2.1 Emissions to Air from Operational Phase

Table 5-8 presents the EPUK-IAQM 2017 guidance screening criteria for when an air quality assessment might be required. Should the criteria within Table 5-8 be exceeded then it is likely that a detailed assessment of operational phase impacts will be required.

During the operational phase, air quality impacts are likely to be associated with traffic emissions as a result of any changes in traffic flows or flow composition the development may bring.

The Transport Consultants for the project, Connect Consultants Ltd, have provided the road traffic study details for the proposed development and are placed in Appendix C. Although a total 605 additional road traffic vehicles are estimated to be passing through the proposed access road from ALDI, the vehicles disperse on the existing road network, and a maximum of 323 vehicles, expressed as AADT24, are estimated to be added to any of the existing roads near to the proposed development during the operational phase.

No vehicles generated by this proposed food store are anticipated to pass through the Air Quality Management Areas (AQMAs) declared by FDC.

An Aldi store typically receives an average of four HGV deliveries per day. Three articulated HGV deliveries per day come from the Regional Distribution Centre (RDC) and there is one delivery per day of milk by a local supplier, usually using a medium sized goods vehicle.

Daily deliveries of milk, bread and morning fresh produce are received prior to, or as early as possible after, the store opening in the morning, and are delivered by one Aldi HGV and one milk delivery vehicle. In addition to goods deliveries, each store has 1-2 collections of General Waste and Animal By-products per week.

5.2.2 Emissions to Air from Operational Phase Energy Plant

At the time of writing, there are no significant combustion sources such as combined heat and power (CHP) plant or large boilers anticipated within the proposed development. Should any such sources be proposed, further assessment of potential air quality impacts may be required.

Table 5.8: Air Quality Screening Criteria from EPUK-IAQM 2017 Guidance

The Development will	Indicative Criteria to Proceed to an Air Quality Assessment	Is the Indicative Criteria Exceeded?
Cause a significant change in Light Duty Vehicle (LDV) traffic slows on local roads with relevant receptors.	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.	No. The maximum additional number of vehicles generated on local roads is 323 AADT.
Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors.	A Change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100AADT elsewhere.	No. The maximum of four HDV are anticipated.
Realign roads, i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5m or more and the road is within an AQMA	No. Access roads are proposed. Roundabout was already consented (Refer to Appendix C)
Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.	No. Roundabout was already consented (Refer to Appendix C)
Introduce or change a bus station.	Where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA - more than 100AADT elsewhere.	None proposed.
Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).	None proposed.
Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.	Typically, any combustion plant where the single or combined NOx emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion. - In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.	None proposed at the time of writing this report.

Reviewing the background air quality data available (Section 4) and considering the likely road pollutant contribution from the development, it is deemed unlikely that the

development would have a significant impact on local air quality. In addition, it is considered that the development would not introduce additional sensitive receptors into an area of known poor air quality. A detailed dispersion modelling assessment is therefore not considered necessary for this scheme.

6 MITIGATION MEASURES

6.1 Construction Phase Mitigation

The dust emitting activities outlined in section 5.1 can be effectively controlled by appropriate dust control measures and any adverse affects can be greatly reduced or eliminated.

Prior to commencement of construction activities, it is anticipated that an agreement on the scope of a DMP for the construction phase will be reached with the local authority to ensure that any potential for adverse environmental effects on local receptors is minimised. The DMP should include *inter alia*, measures for controlling dust and general pollution from site construction operations and include details of any monitoring scheme, if appropriate. Controls should be applied throughout the construction period to ensure that emissions are mitigated.

The dust risk categories identified have been used to define appropriate, site-specific mitigation methods. More detailed, site-specific mitigation measures are contained in Appendix B. There are no 'negligible' risks assigned to any activities, however a selection of mitigation measures are usually recommended as good practice.

The traffic effects of the proposed development during the construction phase will be limited to a relatively short period and will be along traffic routes employed by haulage/construction vehicles and workers. Any effects on air quality will be temporary i.e. during the construction and demolition period only, and can be suitably controlled by the employment of mitigation measures appropriate to the development project.

6.2 Operational Phase Mitigation

As identified in Section 5.2, no significant operational phase impacts are anticipated on local air quality. Ambient air quality is not expected to have significant adverse effects on future site users. The impact of exhaust emissions from traffic generated by the proposed development is not considered likely to be significant. Therefore, it is unlikely the proposed development will have a significant impact on the local air quality.

Nonetheless, best practice measures could be used to reduce the effects of the development on local air quality where feasible. To minimise the potential operational phase impacts, mitigation measures have been identified which included 4x electric charging spaces and 20 passive spaces.

7 CONCLUSIONS

An air quality assessment for the proposed development of an ALDI store and associated access works at 1-3 Hostmoor, March, Cambridgeshire, PE15 0AX has been undertaken with reference to existing air quality in the area and relevant air quality legislation, policy and guidance.

The proposed development site is not located within an air quality management area (AQMA) and the estimated background air pollutant concentrations at the proposed development site are considered likely to be within relevant air quality standards. Therefore, air quality is not considered to be a concern to the development proposals.

Construction phase impacts of the proposed development on local air quality may potentially arise due to fugitive dust emissions during the period of construction. The risk of dust impacts (without mitigation) was assessed according to a widely used method published by the Institute of Air Quality Management (IAQM) and found to be 'low risk'. Mitigation measures appropriate to the construction phase will be specified by a dust management plan (DMP) agreed with FDC; therefore, significant residual effects are not anticipated.

The Transport Consultants for the project, Connect Consultants Ltd, have identified that a maximum of 323 vehicles, expressed as AADT24, are generated on any of the existing roads near to the proposed development during the operational phase. No vehicles generated by this proposed food store are anticipated to pass through the Air Quality Management Areas (AQMAs) declared by FDC. An Aldi store typically receives an average of four HGV deliveries per day. Three articulated HGV deliveries per day come from the Regional Distribution Centre (RDC) and there is one delivery per day of milk by a local supplier, usually using a medium sized goods vehicle.

Daily deliveries of milk, bread and morning fresh produce are received prior to, or as early as possible after, the store opening in the morning, and are delivered by one Aldi HGV and one milk delivery vehicle. In addition to goods deliveries, each store has 1-2 collections of General Waste and Animal By-products per week.

In view of the above, no significant change in existing road traffic, vehicle speed, car parking spaces or the number of HGVs has been identified. Therefore, the impact from traffic generated by the proposed development is not considered to be significant and a quantitative air quality assessment is not considered to be required. A qualitative impact assessment has been undertaken for the operational phase as per the IAQM guidance - Land-Use Planning & Development Control: Planning for Air Quality' in 2017 (herein the 'EPUK-IAQM guidance'. No significant operational phase air quality impacts are anticipated.

To minimise the potential operational phase impacts, mitigation measures have been identified which included 4x electric charging spaces and 20 passive spaces.

No significant stationary combustion sources such as combined heat and power (CHP) plants or biomass boilers are proposed within the development.

On the basis of this assessment, the proposed development is unlikely to be adversely affected by or have a significant impact on local air quality. Therefore, air quality is considered to be a low priority concern for the proposed development.

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APPENDIX A
CONSTRUCTION DUST ASSESSMENT METHODOLOGY

This appendix contains the construction dust assessment methodology used in the assessment.

To assess the potential impacts, construction activities are divided into demolition, earthworks, construction and trackout. The descriptors included in this section are based upon the IAQM construction dust guidance. The assessment follows the steps recommended in the guidance.

Step 1: Screen the requirement for assessment

The first step is to screen out the requirement for a construction dust assessment, this is usually a somewhat conservative level of screening. An assessment is usually required where there is:

a 'human receptor' within:

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

an 'ecological receptor':

- 50m of the boundary of the site; or
- 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s).

Step 2A: Defining the Potential Dust Emission Magnitude

Demolition

The dust emission magnitude category for demolition is varied for each site in terms of timing, building type, duration and scale. Examples of the potential dust emission classes are provided in the guidance as follows:

Large: Total building volume >50,000m^3, potentially dusty construction material, on-site crushing and screening, demolition activities >20m above ground level;

Medium: Total building volume 20,000m^3 – 50,000m^3, potentially dusty construction material, demolition activities 10m – 20m above ground level; and

Small: Total building volume <20,000m^3, construction material with low potential for dust release, demolition activities <10m above ground, demolition during wetter months.

Earthworks

The dust emission magnitude category for earthworks is varied for each site in terms of timing, geology, topography and duration. Examples of the potential dust emission classes are provided in the guidance as follows:

Large: Total site area >10,000m^2, potentially dusty soil type (e.g. clay), >10 heavy earth moving vehicles active at any one time, formation of bunds >8m in height, total material moved >100,000 tonnes;

Medium: Total site area 2,500 – 10,000m^2, moderately dusty soil type (e.g. silt), 5 – 10 heavy earth moving vehicles active at any one time, formation of bunds 4 – 8m in height, total material moved 20,000 – 100,000 tonnes; and

Small: Total site area < 2,500m^2, soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4m in height, total material moved <10,000 tonnes, earthworks during wetter months.

Construction

The dust emission magnitude category for construction is varied for each site in terms of timing, building type, duration, and scale. Examples of the potential dust emissions classes are provided in the guidance as follows:

Large: Total building volume >100,000m^3, piling, on site concrete batching;

Medium: Total building volume 25,000 – 100,000m^3, potentially dusty construction material (e.g. concrete), piling, on site concrete batching; and

Small: Total building volume <25,000m^3, construction material with low potential for dust release (e.g. metal cladding or timber).

Trackout

Factors which determine the dust emission magnitude class of trackout activities are vehicle size, vehicle speed, vehicle number, geology and duration. Examples of the potential dust emissions classes are provided in the guidance as follows:

Large: >50 HDV (>3.5t) trips in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m;

Medium: 10 – 50 HDV (>3.5t) trips in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 – 100m; and

Small: <10 HDV (>3.5t) trips in any one day, surface material with low potential for dust release, unpaved road length <50m.

Step 2B: Defining the Sensitivity of the Area

The sensitivity of the area is defined for dust soiling, human health and ecosystems. The sensitivity of the area takes into account the following factors:

The specific sensitivities of receptors in the area;

The proximity and number of those receptors;

In the case of PM_{10}, the local background concentration; and

Site-specific factors, such as whether here are natural shelters such as trees, to reduce the risk of wind-blown dust.

Table A1 has been used to define the sensitivity of different types of receptors to dust soiling, health effects and ecological effects.

Table A1: Sensitivity of the Area Surrounding the Site

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
High	Users can reasonably expect a enjoyment of a high level of amenity. The appearance, aesthetics or value of their property would be diminished by soiling. The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land. Examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.	Locations where members of the public are exposed over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day) Examples include residential properties, hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.	Locations with an international or national designation *and* the designated features may be affected by dust soiling. Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List For Great Britain. Examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.
Medium	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. The appearance, aesthetics or value of their property could be diminished by soiling. The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land. Examples include parks and places of work.	Locations where the people exposed are workers and exposure is over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day). Examples include office and shop workers, but will generally not include workers occupationally exposed to PM_{10}, as protection is covered by Health and Safety at Work legislation.	Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown. Locations with a national designation where the features may be affected by dust deposition. Example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.
Low	The enjoyment of amenity would not reasonably be expected. Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling. There is transient exposure, where the 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. Examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.	Locations where human exposure is transient. Indicative examples include public footpaths, playing fields, parks and shopping streets.	Locations with a local designation where the features may be affected by dust deposition. Example is a local Nature Reserve with dust sensitive features.

Based on the sensitivities assigned of the different types of receptors surrounding the site and numbers of receptors within certain distances of the site, a sensitivity classification for the area can be defined for each. Tables A2 to A4 indicate the method used to determine the sensitivity of the area for dust soiling, human health and ecological impacts, respectively.

For trackout, as per the IAQM construction dust guidance, it is only considered necessary to consider trackout impacts up to 50m from the edge of the road.

Table A2: Sensitivity of the area to dust soiling effects on people and property

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

Table A3: Sensitivity of the area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM_{10} Conc.	Number of Receptors	Distances from the Source (m)				
			<20	<50	<100	<200	<350
High	>32µg/m^3	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 µg/m^3	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m^3	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m^3	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	>10	High	Medium	Low	Low	Low
	-	1-10	Medium	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Table A4: Sensitivity of the area to Ecological Impacts

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

Step 2C: Defining the Risk of Impacts

The final step is to use both the dust emission magnitude classification with the sensitivity of the area, to determine a potential risk of impacts for each construction activity, before the application of mitigation. Tables A5 to A7 indicate the method used to assign the level of risk for each construction activity.

Table A5: Risk of Dust Impacts from 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 A6: Risk of Dust Impacts from Earthworks/Construction

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

Table A7: Risk of Dust Impacts from Trackout

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

APPENDIX B
SITE-SPECIFIC MITIGATION MEASURES

Site-specific mitigation measures are divided into general measures, applicable to all sites and measures specific to demolition, earthworks, construction and trackout. Depending on the level of risk assigned to each site, different mitigation is assigned. The method of assigning mitigation measures as detailed in the IAQM guidance has been used.

For those mitigation measures that are general, the highest risk has been applied. In this case, the 'medium risk' site mitigation measures have been applied, as determined by the dust risk assessment in Section 6. There are two categories of mitigation measure – 'highly recommended' and 'desirable', which are indicated according to the dust risk level identified in Table 5.7. Desirable measures are presented in *italics*.

Communications

Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.

Display the name and contact details of people 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.

Dust Management

Develop and implement a 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. 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, real-time PM_{10} continuous monitoring and/ or visual inspections.

Site Management

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.

Make the complaints log available to the local authority when asked.

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

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 100m of site boundary, with cleaning to be provided if necessary.

Carry out regular site inspections to monitor compliance with the dust management plan, record inspection results, and make an inspection log available to the local authority when asked.

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.

Agree any dust and air quality monitoring requirements with the local authority.

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 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.

Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicles/Machinery and Sustainable Travel

Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable.

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 15mph on surfaced and 10mph on unsurfaced haul roads and work areas.

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).

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

No bonfires or burning of waste material.

Specific to Demolition - No demolition is proposed.

Specific to Earthworks

Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.

Use Hessian, mulches or trackifiers where it is not possible to re-vegetate to cover with topsoil, as soon as practicable.

Only remove the cover in small areas during work and not all at once.

Specific to 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.

For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Specific to Trackout

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.

Avoid any dry sweeping of large areas.

Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.

Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.

Record all inspections of haul routes and any subsequent action in a site log book.

Install hard surfaced haul route, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.

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 surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.

Access gates to be located at least 10m from receptors where possible.

APPENDIX C
ROAD TRAFFIC DATA

The Transport Consultants for the project, Connect Consultants Ltd, have provided the road traffic study details for the proposed development. Table C.1, below identifies the estimated road traffic, expressed as AADT24, as a result of the proposed development.

For the 2026 year, there are two scenarios evaluated. One based on a 45m roundabout at the A141/Hostmoor Ave junction, which is consented for the nearby Westry Retail Park (yet to be built), and a 60m roundabout, which is proposed for the retail park and not yet consented. The McDonald's traffic, which is not consented has been included as a committed development for robustness.

The data has been converted from AM and PM peak hour flows to ADDT flows using a factor established from the Department for Transport (DfT) count point located to the north of Woodville Drive on the A141 Wisbeath Road .

The data includes the following scenarios: -

- 2021 Base Flows.
- 2026 Year of Peak Operation - 45m Rbt (Consented) + McDonalds.
- 2026 Year of Peak Operation - 60m Rbt (Proposed) + McDonalds.
- 2026 Year of Peak Operation - 45m Rbt (Consented) + McDonalds + ALDI.
- 2026 Year of Peak Operation - 60m Rbt (Proposed) + McDonalds + ALDI.

The table below identifies that a maximum of 605 vehicles will be generated from ALDI on the proposed access road, however, a maximum of

Table C.1 Predicted Road Traffic Generation as a Result of the Proposed ALDI Development

Junction	Traffic Movement	2021 Base				2026 Year of Peak Operation - 45m Rbt (Consented) + McDonalds				2026 Year of Peak Operation - 60m Rbt (Proposed) + McDonalds				2026 Year of Peak Operation - 45m Rbt (Consented) + McDonalds + ALDI				2026 Year of Peak Operation - 60m Rbt (Proposed) + McDonalds + ALDI				ALDI Generated	
		Total Flows	HGVs	%age HGV	PCUs	Total Flows	HGVs	%age HGV	PCUs	Total Flows	HGVs	%age HGV	PCUs	Total Flows	HGVs	%age HGV	PCUs	Total Flows	HGVs	%age HGV	PCUs	AADT24 Aldi	AADT24 Aldi
Junction A - Hostmoor Ave / Tesco / Martin Ave roundabout	A1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	A2	390	30	8	420	422	33	8	455	422	33	8	455	436	33	7	468	436	33	7	468	13	13
	A3	123	0	0	123	134	0	0	134	134	0	0	134	121	0	0	121	121	0	0	121	-13	-13
	A4	209	6	3	215	227	7	3	233	227	7	3	233	227	7	3	233	227	7	3	233	0	0
	A5	14	6	42	20	15	7	42	22	15	7	42	22	15	7	42	22	15	7	42	22	0	0
	A6	171	12	7	183	185	13	7	198	185	13	7	198	185	13	7	198	185	13	7	198	0	0
	A7	1345	277	21	1622	1605	300	19	1905	1775	300	17	2075	1712	300	18	2012	1882	300	16	2183	107	107
	A8	713	42	6	755	768	46	6	814	768	46	6	814	674	46	7	719	674	46	7	719	-95	-95
	A9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	A10	523	6	1	529	558	7	1	565	558	7	1	565	534	7	1	541	534	7	1	541	-24	-24
	A11	71	0	0	71	77	0	0	77	77	0	0	77	74	0	0	74	74	0	0	74	-3	-3
	A12	1748	24	1	1773	1888	26	1	1914	1868	26	1	1894	1810	26	1	1836	1790	26	1	1816	-78	-78
	A13	9	0	0	9	10	0	0	10	10	0	0	10	10	0	0	10	10	0	0	10	0	0
	A14	1806	18	1	1824	1937	20	1	1957	1912	20	1	1932	1913	20	1	1932	1888	20	1	1907	-24	-24
	A15	1645	265	16	1910	1905	287	15	2192	2035	287	14	2322	1938	287	15	2225	2068	287	14	2355	33	33
	A16	494	12	2	506	536	13	2	549	536	13	2	549	539	13	2	552	539	13	2	552	3	3
Junction B - Proposed Aldi access	B1	0	0	0	0	8	0	0	8	8	0	0	8	419	0	0	419	419	0	0	419	411	411
	B2	0	0	0	0	-8	0	0	-8	-8	0	0	-8	285	0	0	285	285	0	0	285	294	294
	B3	0	0	0	0	0	0	0	0	0	0	0	0	156	0	0	156	156	0	0	156	156	156
	B4	3493	332	9	3824	3926	359	9	4284	4076	359	9	4435	3812	359	9	4171	3962	359	9	4321	-113	-113
	B5	3897	289	7	4187	4335	313	7	4648	4440	313	7	4753	4053	313	8	4366	4158	313	8	4471	-282	-282
	B6	0	0	0	0	0	0	0	0	0	0	0	0	605	0	0	605	605	0	0	605	605	605
Junction C - A141 / Hostmoor Ave	C1	0	0	0	0	803	0	0	803	1786	0	0	1786	803	0	0	803	1786	0	0	1786	0	0
	C2	6625	675	10	7300	6957	731	11	7688	6780	731	11	7511	6885	731	11	7616	6707	731	11	7438	-72	-72
	C3	1383	169	12	1552	1571	183	12	1753	1553	183	12	1736	1656	183	11	1838	1638	183	11	1821	85	85
	C4	0	0	0	0	1162	202	17	1364	1137	202	18	1339	1277	202	16	1480	1252	202	16	1455	116	116
	C5	0	0	0	0	159	0	0	159	355	0	0	355	159	0	0	159	355	0	0	355	0	0
	C6	3540	307	9	3847	2875	131	5	3006	2855	131	5	2986	3057	131	4	3188	3037	131	4	3168	182	182
	C7	2514	121	5	2635	2811	131	5	2941	2786	131	5	2916	2979	131	4	3110	2954	131	4	3085	169	169
	C8	7300	868	12	8168	6559	738	11	7296	6328	738	12	7066	6441	738	11	7179	6211	738	12	6948	-118	-118
	C9	0	0	0	0	901	0	0	901	2004	0	0	2004	901	0	0	901	2004	0	0	2004	0	0
	C10	0	0	0	0	649	0	0	649	1484	0	0	1484	612	0	0	612	1448	0	0	1448	-37	-37
	C11	0	0	0	0	162	0	0	162	310	0	0	310	232	0	0	232	380	0	0	380	70	70
	C12	0	0	0	0	600	0	0	600	1346	0	0	1346	568	0	0	568	1313	0	0	1313	-33	-33
Junction D - A141 / B1099 roundabout	D1	1008	187	19	1194	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D2	285	18	6	303	309	20	6	329	309	20	6	329	310	20	6	330	310	20	6	330	1	1
	D3	5817	699	12	6516	6668	757	11	7426	7104	757	11	7861	6695	757	11	7453	7131	757	11	7888	27	27
	D4	2818	54	2	2872	3246	59	2	3305	3449	59	2	3508	3290	59	2	3349	3493	59	2	3552	44	44
	D5	219	24	11	243	237	26	11	263	237	26	11	263	238	26	11	264	238	26	11	264	1	1
	D6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D7	95	6	6	101	103	7	6	110	103	7	6	110	103	7	6	110	103	7	6	110	0	0
	D8	5	0	0	5	5	0	0	5	5	0	0	5	5	0	0	5	5	0	0	5	0	0
	D9	124	6	5	130	134	7	5	140	134	7	5	140	134	7	5	140	134	7	5	140	0	0
	D10	152	6	4	158	165	7	4	171	165	7	4	171	165	7	4	171	165	7	4	171	0	0
	D11	19	0	0	19	21	0	0	21	21	0	0	21	21	0	0	21	21	0	0	21	0	0
	D12	105	6	6	111	113	7	6	120	113	7	6	120	113	7	6	120	113	7	6	120	0	0
	D13	3199	42	1	3241	3714	46	1	3760	3987	46	1	4032	3752	46	1	3798	4025	46	1	4071	38	38
	D14	314	0	0	314	340	0	0	340	340	0	0	340	340	0	0	340	340	0	0	340	0	0
	D15	2301	60	3	2361	2492	65	3	2558	2492	65	3	2558	2492	65	3	2558	2492	65	3	2558	0	0
	D16	14	0	0	14	15	0	0	15	15	0	0	15	15	0	0	15	15	0	0	15	0	0
	D17	1469	42	3	1511	1591	46	3	1637	1591	46	3	1637	1591	46	3	1637	1591	46	3	1637	0	0
	D18	86	0	0	86	93	0	0	93	93	0	0	93	93	0	0	93	93	0	0	93	0	0
	D19	5404	759	14	6163	6335	822	13	7157	6910	822	12	7733	6347	822	13	7170	6923	822	12	7745	13	13
	D20	233	18	8	251	252	20	8	272	252	20	8	272	252	20	8	272	252	20	8	272	0	0
	D21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	D22	166	24	14	190	180	26	14	206	180	26	14	206	180	26	14	206	180	26	14	206	0	0
	D23	200	6	3	206	216	7	3	223	216	7	3	223	216	7	3	223	216	7	3	223	0	0
	D24	19	0	0	19	21	0	0	21	21	0	0	21	21	0	0	21	21	0	0	21	0	0
	D25	238	12	5	250	258	13	5	271	258	13	5	271	258	13	5	271	258	13	5	271	0	0
Junction E - proposed McDonalds junction	E1	3493	332	9	3824	3757	359	10	4116	3907	359	9	4266	4054	359	9	4413	4205	359	9	4564	298	298
	E2	0	0	0	0	177	0	0	177	177	0	0	177	177	0	0	177	177	0	0	177	0	0
	E3	0	0	0	0	116	0	0	116	116	0	0	116	116	0	0	116	116	0	0	116	0	0
	E4	0	0	0	0	388	0	0	388	388	0	0	388	388	0	0	388	388	0	0	388	0	0
	E5	0	0	0	0	325	0	0	325	325	0	0	325	325	0	0	325	325	0	0	325	0	0
	E6	3897	289	7	4187	4218	313	7	4532	4324	313	7	4637	4542	313	7	4855	4647	313	7	4960	323	323