Westar Homes Ltd.

Proposed Residential Development

Finlay Park
Naas
Co. Kildare

Site Development & Construction Phase
-
Air Quality Impact Assessment Report

December 2022

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Control Sheet

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Contents

1.0 Introduction

Redkite Environmental Ltd. was commissioned by Westar Homes Ltd. to complete an Air Quality Impact Assessment Report for the site development and construction phase of a proposed development comprising a Large-Scale Residential Development (LRD) of 134 dwellings, open space and commercial/ health/medical unit floorspace (247.6sqm.) on a 2.9hectare (ha) site at Finlay Park, Naas, Co. Kildare.

1.1 Report Objectives

The principal aims of this report are to:

- Characterise the existing environment in terms of ambient air quality and site context;
- Assess the short-term impact of the site development and construction phase on the existing ambient air quality and the corresponding effect on existing receptors both human and ecological in line with current best practice;
- Identify mitigation measures and/or factors where necessary, including measures for protection of air quality and amenity against short term air quality impacts such as nuisance dust;
- Identify residual impacts (if any) after mitigation.

2.0 Methodology

2.1 Competency

This report has been prepared by Ms. Siobhan Maher, Redkite Environmental Ltd.

Ms. Maher's relevant qualifications and experience include:

- BSc. Analytical Science (Chemistry) from Dublin City University;
- Master of Technology (M.Tech.) Environmental Management from University of Limerick;
- Senior Consultant, Malone O' Regan Environmental Services, 1998 -2001;
- Technical Director, Malone O' Regan Environmental Services, 2001 – 2013;
- Business Development, OES Consulting, 2013 – 2014;
- Managing Director, Redkite Environmental 2014 – present.

Ms. Maher has over 20 years' experience project managing and preparing assessments for EIARs covering a large variety of project types including major infrastructural projects such as road schemes and ports, industrial projects in the dairy, food processing and pharmaceutical sectors, extractive industries including peat harvesting and leisure, residential and commercial projects.

The methodology used in completing this report is presented overleaf.

2.2 Characterisation of the Receiving Environment

The receiving environment, in terms of ambient air quality has been characterised through desk-based study and site walkover. The desk-based study included a review of the EPA annual reports on air quality in Ireland from 2015 – 2020 and mapping available on https://gis.epa.ie/EPAMaps/

2.3 Impact Assessment

The Institute of Air Quality Management (IAQM) has produced Guidance on the Assessment of Dust from Demolition and Construction, Version 1.1 2014[1]. This document has been used to qualitatively identify the risk of dust impact on sensitive receptors arising from the site development and construction phase of the proposed development. The Guidance describes a 5-stage approach to the assessment as follows:

- Screen the proposed Development to determine if there is a requirement for a more detailed assessment;
- Determine the risk of dust impact arising based on the magnitude of dust emissions from different stages of site development and construction and the sensitivity of receptors in the area;
- Determine site specific appropriate mitigation;
- Determine the residual effects and whether these are significant, and,
- Prepare the dust assessment report.

The magnitude of dust emissions is determined based on the following scale of works anticipated as set out in Table 1 below:

Table 1 Quantitative Determination of the Magnitude of Dust Emissions from Demolition and Construction Activities

Activity	**Dust Emission Magnitude**	
Demolition	Large	Total Building Volume >50,000m^3, potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >20m above ground level.
	Medium	Total Building Volume 20,000 - 50,000m^3, potentially dusty construction material demolition activities 10-20m above ground level demolition during wetter months.
	Small	Total Building Volume <20,000m^3, construction material with low potential for dust release e.g. metal cladding, timbers, demolition activities <10m above ground level, demolition during wetter months.
Earthworks	Large	Total site area >10,000m^2, potentially dusty soil type (e.g. clay which will be prone to suspension when dry due to

[1] Updated in 2016 to revise Table 3 on Health Effects.

Activity	**Dust Emission Magnitude**	
		small particle size), >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 tonnes – 100,000 tonnes.
	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 <20,000 tonnes, earthworks during wetter months.
Construction	Large	Total Building Volume >100,000m^3 , on site concrete batching, sand blasting.
	Medium	Total Building Volume 25,000 - 100,000m^3, potential dusty construction material (e.g. concrete), on site concrete batching;
	Small	Total Building Volume <25,000m^3, construction material with low potential for dust release (e.g. metal cladding and timber)
Track-out	Large	>50 Heavy duty vehicles (HDV) (>3.5t) outward movement in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m
	Medium	10 - 50 Heavy duty vehicles (HDV) (>3.5t) outward movement in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 -100m.
	Small	<10 Heavy duty vehicles (HDV) (>3.5t) outward movement in any one day, surface material with low potential for dust release, unpaved road length <50m

When the magnitude of the works is defined then the sensitivity of the area is also identified and combined with the magnitude to form the overall dust risk.

The sensitivity takes account of a number of factors as follows:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM_{10}, the background concentration, and,
- Site specific factors such as whether there are natural shelters such as trees to reduce the risk of wind - blown dust.

The key receptors to be considered are:

- Receptors sensitive to dust soiling/ deposition;
- Human beings and health effects of PM_{10}; and,
- Sensitive ecological receptors.

Sensitivity of each receptor type is determined as high, medium or low and is site specific. There is no unified sensitivity classification scheme although the IAQM document provides information on identifying the level of sensitivity for the above receptors. For example, high sensitivity receptors for dust soiling effects include where:

- Users can reasonably expect enjoyment of a high level of amenity, or,
- The appearance, aesthetics or value of their property would be diminished.

Indicative examples include dwellings, museums, medium and long term car-parks and car showrooms.

A high sensitivity receptor for ecological effects includes locations with an international or national designation *and* the designated features may be affected by dust soiling.

The approach calls for the number of receptors (classed as high, medium or low types) within designated distances <20, 50,100, 350m (for dust soiling and health impacts) to the source to also be identified. With regards to ecological receptors, the distances specified are <20 and <50m. This must be identified for each stage (i.e. demolition, earthworks, construction and track-out as applicable). Table 2 of the Guidance is reproduced below, detailing the assignment of sensitivity ratings for dust soiling taking account of receptor sensitivity, number and distance to source. Tables 3 and 4 of the Guidance reproduce similar tables for rating sensitivity of the area to human health impacts and ecological impacts.

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

Receptor Sensitivity	Number of Receptors	Distance from 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

Once the sensitivity of the Area is defined, then the risk of dust impact is determined for each stage by combining the sensitivity and the dust emission magnitude with no mitigation applied. The Guidance provides matrices for this aspect of assessment also. The matrix for the earthworks stage is provided overleaf as an example:

Table 3 Risk of Dust Impacts – Earthworks

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

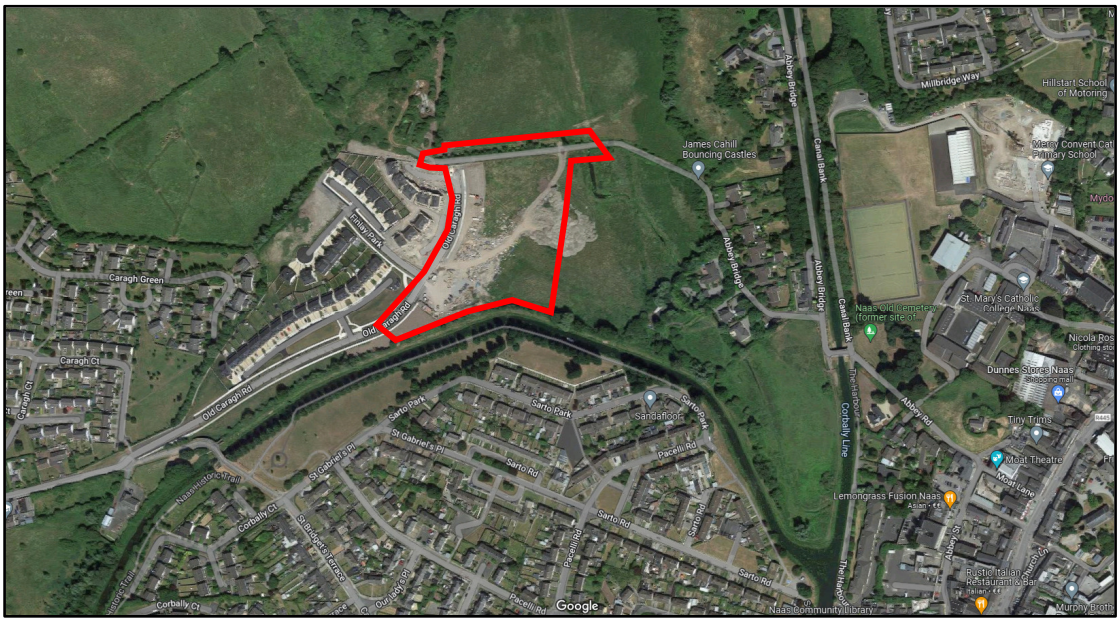
Once the risk of dust impact is determined for each phase then site specific mitigation measures are developed commensurate with the level of risk and the residual impact thereafter assigned.

3.0 Description of Existing Conditions

3.1 Locational Context

The site location is indicated on Figure 1 below.

Figure 1 Site Location



Source: Google Maps. Red boundary line is indicative only.

The proposed development site has an area of 2.9 ha and is mainly grassed with some small mounds of natural materials (soils and subsoils) present from the ongoing development at Finlay Park. Part of the site is also in use as the construction compound for the existing ongoing development at Finlay Park. The proposed development site is located in one large parcel of land, approximately 0.6km to the west of the centre of Naas as indicated on Figure 1. The M7 lies approximately 1.7km to the west/northwest.

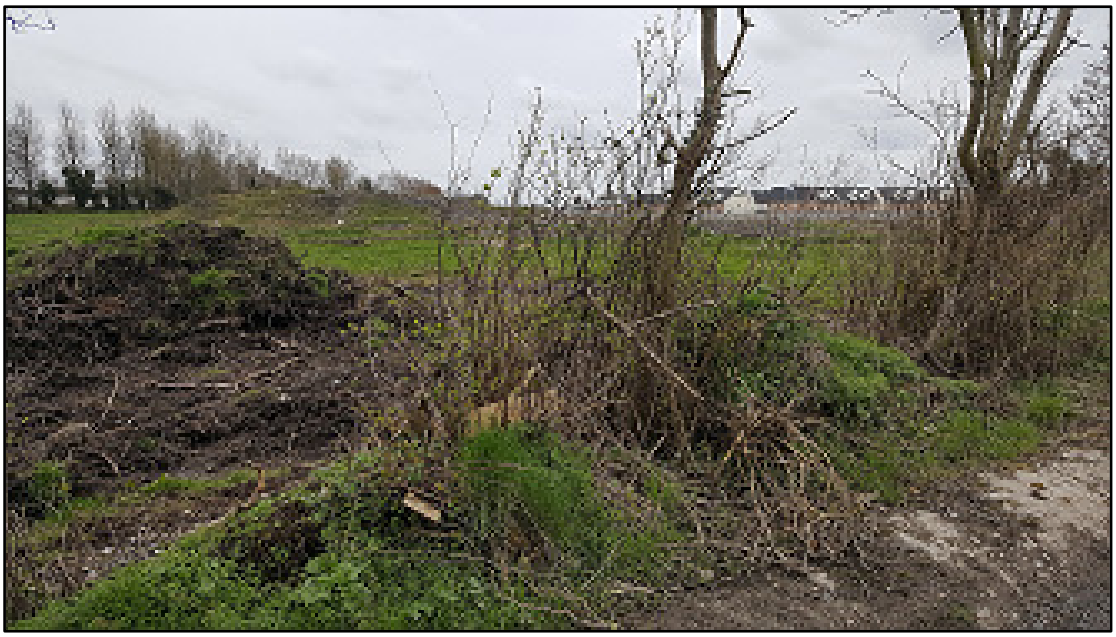
New developments, Caragh Court and Finlay Park, lie to west. The Old Caragh Road bounds the proposed development site to the west and provides access.

The Corbally branch of the Grand Canal lies along the tree-lined southern boundary. Agricultural lands lie to the north and immediate east.

The majority of the proposed development site can be described as within an area that is emerging suburban in nature. Refer to Plate 1 below. A new housing development, Finlay Park lies across from the western boundary. The eastern and northern boundaries are within agricultural land. More mature housing such as Sarto Park (left background, Plate 1), overlooks the southern portion of the site. Refer to Figure 1 earlier.

The current usage of the site does not give rise to significant emissions of dust or particulate matter in the locality as it is greenfield in nature and has been used for grazing.

Plate 1 View south-west into the Site (Finlay Park in right background)



Photographed March 2020

3.2 Applicable Legislation on Air Quality

To protect health, vegetation and ecosystems, limit and target values for various air pollutants are set in the latest EU legislation, the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive 2008/50/EC and the Fourth Daughter Directive 2004/107/EC relating to selected metals and polyaromatic hydrocarbons (PAHs) in ambient air quality. The CAFÉ Directive replaces the earlier framework Directive (96/62/EC) and three daughter directives arising from it.

The CAFE Directive was transposed into Irish legislation by the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). The 4th Daughter Directive was transposed by the Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009).
A summary of applicable limit values is set out in Table 4 below.

Table 4 Air Quality Standards, Regulations 2011

Pollutant	EU Regulation	Limit Type	Margin of Tolerance	Value
Nitrogen Dioxide (NO_2)	2008/50/EC	Hourly limit for the protection of health not to be exceeded more than 18 times per year	None	200 µg/m^3
		Annual limit for the protection of human health	None	40 µg/m^3
		Annual limit for the protection of vegetation	None	30 µg/m^3 No+NO_2
Sulphur Dioxide (SO_2)	2008/50/EC	Hourly limit for protection of human health – not to be exceeded more than 24 times/year	150 µg/m^3	350 µg/m^3
		Daily limit for protection of human health – not to be exceeded more than 3 times per year	None	125 µg/m^3
		Annual and winter limit for the protection of human health and ecosystems	None	20 µg/m^3
Particulate Matter as PM_{10}	2008/50/EC	24 hour limit for protection of human health – not to be exceeded more than 35 times per year.	50%	50 µg/m^3
		Annual limit for protection of human health	20%	40 µg/m^3
Particulate Matter as $PM_{2.5}$	2008/50/EC	Annual limit for the protection of human health (Stage 1)	20% from June 2008. Decreasing linearly to 0% by 2015	25 µg/m^3
		Annual limit for protection of human heath (Stage 2)	To be achieved by 2020	20 µg/m^3
Carbon Monoxide (CO)	2008/50/EC	8-hour limit on a rolling basis for the protection of health.	60%	10 mg/m^3
Benzene (C_6H_6)	2008/50/EC	Annual limit for protection of human health	0% by 2010	5 µg/m^3

The EPA and local authorities operate and maintain a network of monitoring stations throughout Ireland as part of the monitoring requirements under the CAFÉ Directive and to evaluate and report on ambient air quality relative to the limits set out above. A report on ambient air quality is produced annually by the EPA.

More stringent World Health Organisation (WHO) Air Quality Guidelines for PM_{10}, $PM_{2.5}$, ozone, sulphur dioxide and nitrogen dioxide exist based on the latest health information however they do not have a legal basis in Ireland at present. Nevertheless, the EPA makes reference to the WHO Guidelines with regards to air quality monitoring results as part of its annual reporting on air quality in Ireland. It is likely that the WHO air quality guidelines will be adopted in the EU in the future.

3.3 Existing Ambient Air Quality

The existing ambient air quality has been determined through desk-review of reports prepared by the EPA annually on air quality in Ireland. Reports for Years 2015 – 2020 have been reviewed. For ambient air quality and monitoring in Ireland, four zones A, B, C and D are defined in the Air Quality Standards Regulations, 2011. The zones represent the following areas:

- Zone A - Dublin Conurbation;
- Zone B – Cork Conurbation;
- Zone C – 24 cities and large towns (e.g. Galway, Limerick, Naas, Newbridge), and,
- Zone D – Rural Ireland i.e. the State excluding Zones A,B and C.

The proposed development site falls within Zone C (https://gis.epa.ie/EPAMaps). Air quality monitoring data from Zone C sites are therefore considered to be most representative of the air quality at the proposed development site and surrounds. These sites include Kilkenny, Portlaoise, Galway, Bray, Ennis, Dundalk, Carlow, Waterford, Limerick, Letterkenny, Athlone, Tralee. A summary of the data from the representative sites over the period 2015 – 2020 is presented in Table 5 below:

Table 5 Summary background air quality data for stations in Zone C, 2015 - 2020

Parameter	Averaging Interval	Unit	Average
Nitrogen Dioxide NO_2	Annual Mean	$\mu g/m^3$	9.48
Nitrogen Oxides NOx	Annual Mean	$\mu g/m^3$	16.11
Particulate Matter PM_{10}	Annual Mean	$\mu g/m^3$	14.55
Particulate Matter $PM_{2.5}$	Annual Mean	$\mu g/m^3$	9.66
Carbon Monoxide	Annual Mean 8-hour	mg/m^3	0.27
Sulphur Dioxide SO_2	Annual Mean	$\mu g/m^3$	2.44
Benzene	Annual Mean	$\mu g/m^3$	0.14

The results indicate that the EU limit values were not exceeded and that air quality index for health (AQIH) for Zone C is 2 or good.

The main findings of the latest EPA Annual Report for 2020 indicate that air quality is generally good in Ireland but there are localised issues.

- Ireland was compliant with EU legal limits in 2020, largely assisted due to the reduction in traffic from COVID-19 restrictions. However, monitored levels were above the WHO Air Quality Guideline Values at 52 monitoring stations largely due to the burning of solid fuel for home heating.
- Particulate matter, ($PM_{2.5}$, PM_{10}) continued to be a key concern in 2020.
- Residential burning of solid fuels remains the leading contributor to $PM_{2.5}$ pollution across the country.
- Nitrogen dioxide was much reduced in 2020 compared to previous years. Reductions of up to 50% at traffic-oriented stations occurred compared to 2019. However, where traffic figures rise in 2022, levels are likely to return to 2019 levels.

The EPA concludes that the main ways to tackle these issues are to:

Solid Fuel:

- *Change away from more smoky solid fuels such as wet wood, peat and smoky coals as well as a move towards more efficient ways of heating our homes supported by policies to assist us in making these changes.*

Solutions include more energy efficient buildings, update of old heating systems, district heating and restrictions on solid fuel use systems.

The report notes the Government's proposals to restrict smoky fuels nation-wide. In this regard, the Air Pollution Act 1987 (Solid Fuels) Regulations, 2022 come into effect in October 2022.

Transport:

- *A modal shift to clean public transport, improving bicycle infrastructure and further pedestrianisation of roads along with the proposed increased use of electric vehicles and associated infrastructure outlined in the Government's climate action plan will help reduce emissions.*

3.4 Meteorological Data

The magnitude of potential impacts on air quality as a result of development will be influenced by local meteorological conditions which are a key consideration particularly with regard to the construction phase of the proposed Development. Wind speed and direction in particular are important

in determining how emissions associated with an activity will be dispersed. An evaluation of the local climatic conditions is therefore useful for an assessment of the type required for this study.

Met Eireann operate synoptic stations throughout the country. The nearest station to the proposed development site with comprehensive monitoring data is located at Casement Aerodrome. The windroses for Casement Aerodrome were reviewed for the years 2016 – 2018.The dominant wind direction for Casement Aerodrome is from the southwest. The annual average data for the 30[2] year period 1981 -2010 is presented as follows:

- Temperature 9.7 °C
- Rainfall, 754mm
- Average wind speed 5.5 m/s

The average wind speed is quite low (gentle breeze) and is typical of this part of the country.

4.0 Development Description

4.1 General Project Description

The proposed development will consist of the construction of 134 no. apartments (comprising a mixture of 70 no. 2 storey apartments and 64 no. apartments - 22 no. 1 bedroom apartments, 77 no. 2 bedroom apartments, and 35 no. 3 bedroom apartments) with private open space provided in the form of balconies/terraces as follows:

A) Block A (4 storey apartment block) comprising 26 no. apartments (6 no. 1 bed units, 16 no. 2 bed units & 4 no. 3 bed units); Block B (part 4 part 5 storey apartment block) comprising 66 no. apartments (10 no. 1 bed units, 33 no. 2 bed units and 23 no. 3 bed units), with a commercial/ health/medical unit (c. 247.6 sq. m) at ground floor; Block C (part 4 part 5 storey apartment block) comprising 42 no. apartments (6 no. 1 bed, 28 no. 2 bed units and 8 no. 3 bed units);

B) Vehicular/pedestrian and cyclist access from the Old Caragh Road (in new arrangement) along with the provision of 201 no. undercroft and surface car parking spaces as well as 388 no. undercroft and surface cycle parking spaces; internal road and shared surface networks including pedestrian and cycle paths;

C) Public Open space including proposed plaza, as well as central communal (courtyard) open space including outdoor playground area at podium level;

D) 1 no. temporary (for 3 no. years) 3-sided signage structure (c. 4.5m in height) at the entrance to the proposed development.

[2] Climate averages are computed over 30 year periods to smooth out year to year variations.

E) Provision of foul and surface water drainage, including relocation of existing foul main in northern part of site as well as green roofs; linear greenway path, bin stores; plant rooms; public lighting and all associated landscaping and boundary treatment works, site development and infrastructural works, ESB substations, and all ancillary works necessary to facilitate the development.

The proposed layout is indicated on Dwg. A0111 in Attachment 1.

4.2 Site Development & Construction Phases

The site development and construction phases are expected to comprise 4 phases over 30 - 36 months in total. There will be overlap between phases to complete the development within the envisaged timeframe.

Table 6 Proposed Construction Timetable

No.	Description	Timing (months)
1.	Site Development and foundations for all Blocks (A, B&C) and podium car-park	5
2.	Block B construction	12
3.	Block A construction	9
4.	Block C construction	12
TOTAL		**38***

Note;: there will be overlap between phases*

The following steps will be completed:

- Site enabling works.
- Foundation.
- Substructure.
- Main structure.
- Fit out.
- Final site development, landscaping.
- Handover.

Construction traffic will access and exit the Site via the Old Caragh Road arriving via the R409/R445 Millennium Park Road/M7 from the west/northwest and via the R409/R445 Newbridge Road/Southern Ring Road from the south.

It is envisaged that 25 – 30 HGVs will access the site per day during peak activities. Based on construction working hours of 08.00 – 18.00 hrs Monday to Friday, this equates to on average 2-3 HGVs/hr accessing the site or 6 trips per hour.

The amount of soil and subsoil moved during the earthworks phase is estimated as 8,100m^3 which equates to approx. 12,150 tonnes.

As the site is greenfield, no demolition works are proposed.

5.0 Assessment of Impact on Sensitive Receptors

Emissions of dust can occur during site development and construction phases and can vary substantially from day to day depending on weather conditions, level of activity and specific operations undertaken. Emissions can cause nuisance due to soiling of surfaces i.e. dust deposition by large particles. Additionally, long term dust particles less than 10 µm and less than 2.5 µm may potentially give rise to health effects and are covered by the limits for PM_{10} and $PM_{2.5}$ set out in Table 4 above. Dust emissions may also affect sensitive ecological receptors through, for example, smothering of vegetation.

There are no specific criteria specified for nuisance (inert) dust in Ireland. Generally, the German TA-Luft standard for dust deposition causing possible nuisance of 350 mg/m^2/day is often applied for certain activities including site development and construction works, quarrying and often in Industrial Emission (IE) licences issued by the EPA.

The potential impacts on air quality and related effects during the site development and construction phases are mainly related to:

- Dust deposition on high sensitivity receptors such as adjacent residential areas in Finlay Park, Sarto Park and off the Old Caragh Road;
- Effects on human health arising from PM_{10} and $PM_{2.5}$ particles in suspended matter (dust);
- Dust deposition and smothering of vegetation.
- A number of HGVs will be used during the site development and construction phase. However, it is not considered that there is a potential for significant impact on ambient air quality arising from exhaust emissions from a limited number of vehicles.

The potential dust risks associated with the site development and construction phases have been assessed in accordance with the IAQM Guidelines.

The proposed development site has a 'human receptor' within 350m of the boundary and within 50m of the route for construction traffic and also an 'ecological receptor' within 50m of the site boundary. Therefore, the proposal is deemed to require a more detailed assessment based on the screening criteria in the IAQM Guidance.

5.1 Magnitude of Dust Emissions

The magnitude of the dust emission is presented in summary as follows:

Table 7 Estimated Magnitude of Dust Emissions

Activity	Dust Emission Magnitude
Earthworks	Medium
Construction	Medium to Small
Trackout	Medium to Small

The above table is based on the following assumptions:

Earthworks:

- Initial earthworks will take place across the entire site followed by phased development of each Block. The site is large >10,000m^2 for this phase of development.
- According to the site investigation undertaken on-site, cohesive soils underlying the site are brown sandy slightly gravelly CLAY overlying granular soils described as grey-brown clayey gravelly sand overlying slightly clayey sandy fine to coarse sub-angular to sub-rounded gravel. Clay particles are the smallest (<0.002mm) followed by silt (0.002 – 0.06mm) and sand (0.06 – 2mm). Where clay is present, there is a higher potential for dust arising.
- 12,150 tonnes of existing soils and subsoil material is likely to be moved within the site during the earthworks.
- 5-10 earth moving equipment will be active at any given time during earthworks.
- Bunds 4-8m in height.

Construction:

- Total building volume for the largest phase Block B is estimated at just within the lower end of the range 25,000 -100,000 m^3.
- No concrete batching or sand blasting will be carried out.
- The majority of construction components will be pre-formed off-site.

Track-out:

- 10-50 outward HDV (>3.5 t) movements per day.
- Haul roads within the site will be filled with stone and construction traffic will be routed on paved surfaces.

5.2 Sensitive Receptors

The outcome of defining the sensitivity of the area is as follows:

Table 8 Sensitivity Ratings Summary

Potential Impact	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust Deposition	Medium	Low	Medium
Human Health	Low	Low	Low
Ecology	Low	Low	Low

The above table is based on the following:

- Residential receptors within <20m of site boundary (1 – 10), <50m (1 - 50), <100m (1-50).
- Receptor numbers for track-out are based on 500m distant from the site for effects to occur and within <50m radius of roadside. Numbers are estimated within range 10-100.
- Background PM_{10} concentrations are low and well within the relevant AQS.
- The Grand Canal is a proposed Natural Heritage Area (NHA) adjoining the southern site boundary. The proposed development footprint is set back from the canal and screened by tall trees and vegetation which can protect the waterway which is within 50m of the proposed internal road footprint. Therefore, it is proposed as a medium sensitive receptor within <50m but>20m from the main development site.
- OPENFIELD Ecological Services has classified the treelines along the southern boundary as of high local value and the hedgerow to the north as of low local value.

A summary table combining the sensitivities of receptors with the dust magnitude for each stage is presented below giving the overall dust risk:

Table 9 Overall Dust Risk Summary

Source	Dust Deposition	Human Health	Ecology
Earthworks	Medium	Low	Low
Construction	Low	Low	Low
Trackout	Low	Low	Low

The assessment indicates that most significant potential impacts and effects are those associated with earthworks in terms of dust deposition. A number of mitigation measures will be implemented as detailed below in Section 6.0, commensurate with the level of risk identified above.

6.0 Mitigation Measures and/or Factors

As with most new builds, a significant proportion of pre-made elements will be brought to site which reduces the potential for dust emissions. Similarly, typical dust generation sources such as batch concreting is not likely to be carried out. Pre-mixed concrete will be brought to site.

A Construction Management Plan including for dust management will be developed prior to the commencement of site development works. The principal objective of the Plan will be to ensure that dust emissions do not cause

significant dust soiling on nearby residential receptors. Key features are summarised as follows:

- A designated Site Representative will be assigned overall responsibility for Dust Management;
- The design of the site development and construction programmes will consider dust impact management and choose design approaches to minimise dust emissions;
- An effective training programme for site personnel will be implemented for the duration of the site development works and construction stages;
- A strategy for ensuring effective communication with the local community will be developed and implemented;
- A complaints procedure will be implemented;
- A programme of dust minimisation and control measures will be implemented and regularly reviewed;
- A monitoring programme will be implemented.

The design of the site development and construction programme and the location and layout of the construction compound and the storage of materials will be carefully planned to ensure that air quality impacts are minimised.

The following is a summary of the main mitigation features of the project and the specific mitigation measures which will be employed in order to minimise emissions from the activity and the associated impacts of such emissions:

- Activities with potential for significant emissions will wherever possible be located at a position as far as possible removed from the nearest residential receptors;
- The areas on site which vehicles will be travelling on will generally be hard-surfaced or compressed ground thus significantly reducing the potential for dust emissions from the vehicles;
- Stock piles of soil and sub-soil and activities potentially giving rise to soil erosion will be strictly controlled;
- The construction compound area will have hard standing areas to minimise dust generation from wind-blow;
- In order to minimise the potential for wind-generated emissions from material storage bays, these bays will be oriented away from the dominant wind direction to minimise the effects of wind on release of dust and particulate;
- Existing vegetation and hoarding along the boundaries will be retained as screening;
- Fixed and mobile water sprays will be used to control dust emissions from material stockpiles and road and yard surfaces as necessary in dry and/or windy weather;
- A wheel-wash will be used where necessary to reduce mud deposition on local roads;
- A daily inspection programme will be formulated and implemented in order to ensure that dust control measures are inspected to verify effective operation and management, and,

- A dust deposition monitoring programme will be implemented at the site boundaries for the duration of the earthworks phase to verify the continued compliance with relevant standards and limits. At a minimum this will involve regular visual site inspections at receptors at Finlay Park and along the Old Caragh Road.

7.0 Conclusions

An assessment of the potential impacts, primarily arising from short-term site development and construction related dust has been undertaken in accordance with the guidance outlined in the Assessment of Dust from Demolition and Construction, Version 1.1 Institute of Air Quality Management (IAQM), 2014.

The predicted residual effects on human beings/health/ecological receptors in terms of dust deposition are expected to be temporary, neutral and imperceptible provided the dust generation avoidance, prevention and minimisation measures outlined in Section 6.0 are implemented.

8.0 References

1. Air Quality in Ireland, 2020, EPA, 2021
2. Air Quality in Ireland, 2019, EPA, 2020
3. Air Quality in Ireland 2018, EPA, 2019
4. Air Quality in Ireland 2017, Indicators of Air Quality, EPA, 2018
5. Air Quality in Ireland 2016, Indicators of Air Quality, EPA, 2017
6. Air Quality in Ireland 2015, Key Indicators of Ambient Air Quality, EPA, 2016
7. Guidance on the Assessment of Dust from Demolition and Construction, Version 1.1 Institute of Air Quality Management (IAQM), 2014

Attachment 1

1 Proposed Site Layout - Zone 1

1 : 500

Description:
Digital Cartographic Model (DCM)

Publisher / Source:
Ordnance Survey Ireland (OSi)

Data Source / Reference:
PRIME2

File Format:
Autodesk AutoCAD (DWG_R2013)

File Name:
v_50119998_1.dwg

Clip Extent / Area of Interest (AOI):
LLX,LLY= 687832.0,719115.0
LRX,LRY= 689356.0,719115.0
ULX,ULY= 687832.0,720311.0
URX,URY= 689356.0,720311.0

Projection / Spatial Reference:
Projection= IRENET95_Irish_Transverse_Mercator

Centre Point Coordinates:
X,Y= 688594.0,719713.0

Reference Index:
Map Series | Map Sheets
1:1,000 | 3559-07
1:1,000 | 3559-02
1:2,500 | 3558-B
1:2,500 | 3509-C
1:1,000 | 3509-22
1:1,000 | 3559-06
1:2,500 | 3508-D
1:2,500 | 3559-A

Data Extraction Date:
Date= 14-May-2020

Source Data Release:
DCLMS Release V1.128.109a

Product Version:
Version= 1.3

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NOTES:

DESIGN INTENT DRAWING

FOR INFORMATION PURPOSES

LEGEND:

SITE OUTLINED IN RED
SITE AREA =28,825.07 m² / 2.9 H.A

LAND OWNERSHIP EXTENDS BEYOND RAWING. FUTURE DEVELOPMENT

APARTMENT BLOCKS

SCHEDULE OF ACCOMMODATION

1BED	2BED	3BED	TOTAL
22	77	35	134
16%	57%	26%	100%

Rev	Date	Description	Issued By
P01	06/12/2022	Planning Issue	

Project Stage

PLANNING

Client:

Westar Homes Limited

Project:

Residential @ Finlay Park
Finlay Park, Naas, Co. Kildare

Drawing Title:

Proposed Site Layout

Drawn	Checked	Paper Size	Scale	Date
VM	BB	A1	As indicated @A1	06/12/2022

Project No.	Drawing No.	Classification	Revision
PE17019	0111		P01

File Name
PE17019-CWO-01-ZZ-DR-A-0111

Status:
S2-Suitable for information

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