

Winchcombe CSEC - Construction Dust Assessment

National Grid Cotswolds Visual Impact Provision (VIP)
Proposed Project

Document Ref: 30167905-ARC-NC-260-RP-A-00002

JUNE 2024



VERSION CONTROL

Version	Date	Author	Checker	Approver	Changes
V1	03/06/2024	J. Shaw	H. Dennett	P.Manktelow/ N.Hartley	-

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CONTENTS

1	INTRODUCTION	1
	Brief.....	1
	Scope.....	2
2	LEGISLATION.....	3
3	CONSTRUCTION DUST RISK ASSESSMENT METHODOLOGY.....	3
	Step 1.....	4
	Step 2.....	4
	Step 3.....	10
	Step 4.....	10
4	CONSTRUCTION DUST RISK ASSESSMENT	10
	Step 1.....	10
	Step 2A	10
	Step 2B	11
	Step 2C	12
	Step 3.....	13
	Step 4.....	16
5	REFERENCES	16

TABLES

Table 1 Construction Traffic Flows (Cotswolds VIP Wider Project)	2
Table 2 Construction Dust: Magnitude of Emission	4
Table 3 Construction Dust: Examples of Factors Defining Sensitivity of an Area.....	6
Table 4 Construction Dust: Sensitivity of the Area to Dust Soiling Effects on People and Property	7
Table 5 Construction Dust: Sensitivity of the Area to Human Health Impacts	7
Table 6 Construction Dust: Sensitivity of the Area to Ecological Impacts.....	9
Table 7 Construction Dust: Dust Risk Category from Demolition Activities	9
Table 8 Construction Dust: Dust Risk Category from Earthworks and Construction Activities.....	9
Table 9 Construction Dust: Dust Risk Category from Trackout Activities	10

Table 10 Dust Emission Magnitude Summary 11

Table 11 Earthworks and Construction Dust Sensitive Receptors..... 11

Table 12 Trackout Dust Sensitive Receptors 12

Table 13 Summary of the Sensitivity of the Area 12

Table 14 Summary of the Risk of Dust Effects..... 12

Table 15 Proposed Dust Mitigation Measures based on IAQM Guidance (Ref 3)..... 13

1 Introduction

Brief

- 1.1 Arcadis Consulting (UK) Ltd. (Arcadis) was commissioned to undertake a dust risk assessment for the National Grid Winchcombe Cable Sealing End Compound (CSEC) (hereafter referred to as the Proposed Project), to determine the site specific mitigation measures to mitigate potential dust effects associated with the construction phase.
- 1.2 The Proposed Project forms part of the wider Cotswolds Visual Impact Provision (VIP) Project (hereafter referred to as the 'wider project'), the purpose of which is to underground a section of 400kV overhead electricity transmission lines, to mitigate the visual impact of existing electricity infrastructure through part of the Cotswolds National Landscape (previously known as Area of Outstanding Natural Beauty). The wider project is located immediately south of the B4632 and from Breakheart Plantation, runs in a south-westerly direction to the east of Cleeve Common Site of Special Scientific Interest (SSSI), past Wontley, Drypool and Wood Farms, towards Dowdeswell Wood.
- 1.3 The wider project will comprise:
 - The removal of a section of overhead lines (OHL), including the permanent removal of 16 pylons (18 pylons will be removed in total, however, two will be replaced under Permitted Development);
 - Underground cabling of approximately 7km in length;
 - Two new CSECs at each end (north and south) and associated replacement terminal pylons (as mentioned above), to connect the new underground cables to the remaining existing overhead line;
 - Associated temporary works to facilitate construction, including temporary/permanent access junctions and roads, a temporary haul road, construction compounds, material storage and welfare facilities; and
 - Ancillary off-site infrastructure (including installation of arcing horns and shunt reactor installation/connection).
- 1.4 The majority of the works will be undertaken using Permitted Development rights under Schedule 2 of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended), however, the CSECs require planning permission. The scope of this report is for the Winchcombe CSEC only.
- 1.5 The Proposed Project is for the construction of a CSEC at Winchcombe to facilitate the connection between new underground cables and the existing OHL and the associated permanent access road (and bell-mouth) to the CSEC, in addition to temporary bell-mouths created to support the cable construction along classified roads. The Proposed Project is located within Tewkesbury Borough.
- 1.6 The proposed works within the Winchcombe CSEC redline comprise:
 - Installation of a terminal pylon to connect the new underground cables to the remaining existing overhead line (note: the pylon is Permitted Development);
 - CSEC infrastructure;
 - Underground cabling from the Winchcombe CSEC towards the Whittington CSEC (note: this is Permitted Development);
 - A permanent access road to the CSEC, including a bell-mouth and turning area;
 - A hardstanding area where the overhead line meets with the new underground cables;
 - A retaining wall;
 - New screening comprising native trees, woodland and scrub planting; and
 - Temporary bell-mouths with the B4632 and a classified road to facilitate construction.

- 1.7 The Proposed Project application boundary is not located in an Air Quality Management Area (AQMA) and there are no AQMAs within the surrounding area of Gloucestershire.

Scope

- 1.8 Construction vehicle numbers for the Proposed Project are not available. However, a Transport Assessment has been undertaken by Arcadis to assess the traffic generation associated with the construction phase for the wider project (Document Ref: 30167905-ARC-XX-260-RP-T-00001), which incorporates the Proposed Project. Screening of the construction traffic data has determined the worst-case flows for activities for the peak construction year (2027), detailed below in Table 1.

Table 1 Construction Traffic Flows (Cotswolds VIP Wider Project)

Overlapping Construction Phase	Vehicle Type	Total Movements (in and out of site)	Average Two-way movements per day	Peak Two-way movements per day	Northern Access (30%)	Southern Access (70%)
Cable Installation	HGVs	2500	12	20	6	14
	LGVs & Cars	8500	42	63	19	44
Cable Sealing End Compound Construction X 2	HGVs	1500	12	19	6	13
	LGVs & Cars	4000	33	50	15	35
400kV Overhead Line Construction & Dismantling work	HGVs	3000	19	28	8	20
	LGVs & Cars	7000	44	65	20	46
General Traffic to / from Site	HGVs	1000	2	3	1	2
	LGVs & Cars	9500	20	30	9	21
Total	HGVs	8000	45	70	21	49
	LGVs & Cars	29000	139	208	62	146

- 1.9 The Institute of Air Quality Management's (IAQM) Guidance on Land-Use Planning and Development Control: Planning for Air Quality v1.2 (Ref 1) details its own indicative criteria that, if met, highlight the need for an assessment. The screening criteria for vehicle emissions assessment is as follows:

- A change in Light Duty Vehicle (LDV) flows of >100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA, or >500 AADT elsewhere;
- A change in Heavy Duty Vehicle (HDV) flows of >25 AADT within or adjacent to an AQMA, or >100 AADT elsewhere;
- Where a road is realigned by 5 m or more and is within an AQMA; or

- Where a junction is added or removed close to existing receptors.
- 1.10 There are three proposed construction routes for the wider project as a whole, one to the north and two to the south as detailed below:
- Construction Route 1c (construction route for northern access): B4632 – High Street/Deep Street – B4075 – A435 – A46 – M5;
 - Construction Route 2a (construction route for southern access): A40 – A436 – A417 – M5; and
 - Construction Route 2b (construction route for southern access): A40 – A429 – A424 – A44 – A46 – M5.
- 1.11 The total construction traffic flows presented in Table 1 will be spread across all three of the above construction routes, therefore any increase in traffic on any one construction route will be lower than the total flows presented in Table 1.
- 1.12 In the event that 100% of the construction traffic should need to use one route i.e. should issues arise during construction, then the number of vehicles associated with the construction phase of the wider project would still be well below IAQM screening criteria as there are no AQMAs within the vicinity of the wider project. On this basis and given that the construction vehicle numbers would be smaller for the Proposed Project itself, construction vehicle emission impacts are not considered significant and have been scoped out of further assessment.
- 1.13 There would be very few vehicles associated with the operation of the wider project, limited to normal National Grid personnel attendance at Site and infrequent maintenance visits, which is not anticipated to alter from current levels. On this basis and given that the operational vehicle numbers would be smaller for the Proposed Project itself operational vehicle emission impacts are not considered significant and have also been scoped out of further assessment.
- 1.14 There is potential for fugitive dust emissions to be emitted during the construction phase from construction dust activities, therefore a dust risk assessment has been undertaken to determine the site specific mitigation measures to mitigate potential dust effects associated with the construction phase.

2 Legislation

- 2.1 Generally, dust is only a cause of annoyance but when of sufficient scale and frequency it may become a statutory nuisance. The relevant legislation dealing with statutory nuisance is given in Part III of the Environmental Protection Act 1990 (Ref 2). A statutory nuisance in relation to dust and deposits is defined under Section 79 of the act as follows:

"...any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance" or "any accumulation or deposit, which is prejudicial to health or a nuisance..."

- 2.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the Local Authority is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). Enforcement can insist that there be no dust beyond the boundary of the works. The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practice measures.

3 Construction Dust Risk Assessment Methodology

- 3.1 There is the potential for fugitive dust emissions to occur as a result of construction phase activities associated with the Proposed Project. These have been assessed in accordance with the methodology outlined within the IAQM 'Guidance on the Assessment of Dust from Demolition and Construction' (Ref 3).

- 3.2 Activities associated with the construction phase of the Proposed Project have been divided into four types to reflect their different potential impacts. These are:
- Demolition;
 - Earthworks;
 - Construction; and
 - Trackout.
- 3.3 The potential for dust emissions has been assessed for each activity that is likely to take place and considered three separate dust effects:
- Annoyance due to dust soiling;
 - Harm to ecological receptors; and,
 - The risk of health effects due to a significant increase in exposure to particulate matter less than 10 microns in diameter (PM₁₀).
- 3.4 The assessment steps are detailed below.

Step 1

- 3.5 Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 250m of the site boundary or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment proceeds to Step 2. Additionally, should ecological receptors be identified within 50m of the site or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment also proceeds to Step 2.
- 3.6 Should sensitive receptors not be present within the relevant distances then negligible impacts would be expected and further assessment is not necessary.

Step 2

- 3.7 Step 2 assesses the risk of potential dust impacts. A site is allocated a risk category based on two factors:
- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and
 - The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B).
- 3.8 The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied.
- 3.9 Step 2A defines the potential magnitude of dust emissions through the construction phase. The relevant criteria are summarised in Table 2.

Table 2 Construction Dust: Magnitude of Emission

Magnitude	Activity	Criteria
Large	Demolition	Total building volume greater than 75,000m ³ Potentially dusty construction material (e.g. concrete) On-site crushing and screening Demolition activities greater than 12m above ground level

Winchcombe CSEC Construction Dust Assessment

Magnitude	Activity	Criteria
	Earthworks	Total site area greater than 110,000m² Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) More than 10 heavy earth moving vehicles active at any one time Formation of bunds greater than 6m in height
	Construction	Total building volume greater than 75,000m³ On site concrete batching Sandblasting
	Trackout	More than 50 Heavy Duty Vehicle (HDV) trips per day Potentially dusty surface material (e.g. high clay content) Unpaved road length greater than 100m
Medium	Demolition	Total building volume 12,000m³ to 75,000m³ Potentially dusty construction material Demolition activities 6m to 12m above ground level
	Earthworks	Total site area 18,000m² to 110,000m² Moderately dusty soil type (e.g. silt) 5 to 10 heavy earth moving vehicles active at any one time Formation of bunds 3m to 6m in height
	Construction	Total building volume 12,000m³ to 75,000m³ Potentially dusty construction material (e.g. concrete) On site concrete batching
	Trackout	20 to 50 HDV trips per day Moderately dusty surface material (e.g. high clay content) Unpaved road length 50m to 100m
Small	Demolition	Total building volume under 12,000m³ Construction material with low potential for dust release (e.g. metal cladding or timber) Demolition activities less than 6m above ground level. Demolition activities during wetter months
	Earthworks	Total site area less than 18,000m² Soil type with large grain size (e.g. sand) Less than 5 heavy earth moving vehicles active at any one time Formation of bunds less than 3m in height
	Construction	Total building volume less than 12,000m³

Magnitude	Activity	Criteria
		Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	Less than 20 HDV trips per day Surface material with low potential for dust release Unpaved road length less than 50m

Step 2B defines the sensitivity of the area around the development to potential dust impacts. The influencing factors are shown in Table 3.

Table 3 Construction Dust: Examples of Factors Defining Sensitivity of an Area

Receptor Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	Users expect high levels of amenity. The appearance, aesthetics or value of the property would be diminished by soiling. People expected to be present continuously for extended periods of time. Locations where members of the public are exposed over a time period relevant to the objective for particulate matter less than 10 microns in diameter (PM₁₀) e.g. residential properties, hospitals, schools and residential care homes.	Internationally or nationally designated site e.g. Special Area of Conservation, and the designated features may be affected by dust soiling. Locations where there is a community of a particular dust sensitive species such as vascular species included in the Red Data List for Great Britain.
Medium	Users would expect to enjoy a reasonable level of amenity. Aesthetics or value of their property could be diminished by soiling. 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 e.g. parks and places of work.	Nationally designated site e.g. Sites of Special Scientific Interest with dust sensitive features. Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown.
Low	Enjoyment of amenity would not reasonably be expected. Property would not be expected to be diminished in appearance. Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, playing fields, farmland, footpaths, short term car park and roads.	Locally designated site e.g. Local Nature Reserve where the features may be affected by dust deposition.

3.10 The IAQM construction dust guidance (Ref 3) also provides the following factors to consider when determining the sensitivity of an area to potential dust impacts:

- Any history of dust-generating activities in the area;
- The likelihood of concurrent dust-generating activity on nearby sites;
- Any pre-existing screening between the source and receptors;
- Any conclusions drawn from analysing local meteorological data which accurately represent the area; and if relevant the season during which works will take place;
- Any conclusions drawn from local topography;
- Duration of the potential impact, as a receptor may become more sensitive over time; and
- Any known specific receptor sensitivities which go beyond the classifications given in the document.

3.11 These factors have been considered during the undertaking of the assessment.

3.12 The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in Table 4.

Table 4 Construction Dust: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 250
High	More than 100	High	High	Medium	Low
	10 - 100	High	Medium	Low	Low
	1 - 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

Note – only the highest level of sensitivity needs to be considered.

3.13 Table 5 outlines the criteria for determining the sensitivity of the area to human health impacts.

Table 5 Construction Dust: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
High	Greater than 32µg/m ³	More than 100	High	High	High	Medium
		10 - 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28-32µg/m ³	More than 100	High	High	Medium	Low

Winchcombe CSEC Construction Dust Assessment

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
		10 - 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24-28µg/m ³	More than 100	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	Less than 24µg/m ³	More than 100	Medium	Low	Low	Low
		10 - 100	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Medium	Greater than 32µg/m ³	More than 10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28-32µg/m ³	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24-28µg/m ³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	Less than 24µg/m ³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	More than 1	Low	Low	Low	Low

Note – only the highest level of sensitivity needs to be considered.

3.14 Table 6 outlines the criteria for determining the sensitivity of the area to ecological impacts.

Table 6 Construction Dust: Sensitivity of the Area to Ecological Impacts

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

3.15 Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts.

3.16 Table 7 outlines the risk category from demolition activities.

Table 7 Construction Dust: Dust Risk Category from Demolition Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Medium
Medium	High	Medium	Low
Low	Medium	Low	Negligible

3.17 Table 8 outlines the risk category from earthworks and construction activities.

Table 8 Construction Dust: Dust Risk Category from Earthworks and Construction Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

3.18 Table 9 outlines the risk category from trackout activities.

Table 9 Construction Dust: Dust Risk Category from Trackout Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

Step 3

- 3.19 Step 3 requires the identification of site-specific mitigation measures within the guidance to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with negligible risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

Step 4

- 3.20 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of effective mitigation. Experience shows that this is normally possible, hence the residual effect will normally be not significant.

4 Construction Dust Risk Assessment

Step 1

- 4.1 The undertaking of activities such as demolition, excavation, ground works, cutting, construction and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from highway surfaces.
- 4.2 The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.
- 4.3 A desk-study identified a number of sensitive human receptors within 250m of the site redline boundaries, mostly farms and other residential properties in the area, which are displayed in Figure 30167905-ARC-EGN-ZZ-DR-ZZ-00041-S2-P01-Winchcombe CSEC Construction Dust Study Area. A detailed assessment of potential dust impacts was therefore required.
- 4.4 It should be noted that there are no sensitive ecological receptors within 50m of the site boundaries or within 50m from the construction vehicle route up to 250m from the site entrance and thus impacts on sensitive ecological receptors have not been considered further in the assessment.

Step 2A

Demolition

- 4.5 There are no proposed demolition activities associated with the Proposed Project therefore demolition activities have not been considered further in the assessment.

Earthworks

- 4.6 The total site area is between 18,000 - 110,000m² and the soil type mostly consists of clay. There is expected to be fewer than 5 heavy earth moving vehicles active at any one time and the bunds are expected to be less than 3m. As such the potential dust emission magnitude for earthworks is considered to be **medium**.

Construction

- 4.7 No buildings would be constructed onsite, instead prefabricated steel structures would be used. Concrete would only be used for the foundations and no concrete batching is required. As such, the magnitude of potential dust emissions from construction is classified as **small**.

Trackout

- 4.8 During the construction phase of the Proposed Project, there is estimated to be fewer than 20 outward HDV movements in any one day on average. The construction access road will be approximately 1,700 metres in length. Therefore, the magnitude of potential dust emissions from trackout is classified as **medium**.
- 4.9 The dust emission magnitude for each dust generating activity for the Proposed Project is summarised in Table 10.

Table 10 Dust Emission Magnitude Summary

Activity	Dust emission magnitude
Demolition	N/A
Earthworks	Medium
Construction	Small
Trackout	Medium

Step 2B

- 4.10 Receptors sensitive to potential dust impacts during earthworks and construction activities were approximated from a desktop study of the area up to 250m from the site boundary for human receptors and up to 50m for ecological receptors. These are summarised in Table 11.

Table 11 Earthworks and Construction Dust Sensitive Receptors

Distance from Sites (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Less than 20	1 – 10	0
Less than 50	1 – 10	0
Less than 100	1 – 10	-
Less than 250	1 – 10	-

- 4.11 Receptors sensitive to potential dust impacts from trackout were approximated from a desktop study of the area up to 50m from the road network within 250m of the site accesses. These are summarised in Table 12.

Table 12 Trackout Dust Sensitive Receptors

Distance from Trackout Study Area (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Less than 20	1 – 10	0
Less than 50	1 – 10	0

4.12 In order to determine the sensitivity of the receiving environment, the maximum PM₁₀ background concentration for 2024 across the site was obtained from the Defra website (Ref 4) and identified as being 12.2µg/m³ for grid square X:400500 Y:227500. Therefore, in accordance with the IAQM construction dust guidance (Ref 3), health impacts should be determined based on the criteria within the less than 24µg/m³ category (refer to Table 5).

4.13 In accordance with the IAQM construction dust guidance (Ref 3), the highest level of sensitivity should be recorded from the criteria outlined in the guidance. As the human receptors include residential properties, the sensitivity of the receiving environment to potential dust impacts is considered to be high for human receptors. Therefore, the sensitivity of the surrounding area has been determined based on the number of high sensitivity receptors within the less than 24µg/m³ background PM₁₀ category (refer to Table 5).

4.14 The sensitivity of the receiving environment to specific dust impacts is summarised in Table 13.

Table 13 Summary of the Sensitivity of the Area

Potential Impact	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust soiling	Medium	Medium	Medium
Human health	Low	Low	Low
Ecological	n/a	n/a	n/a

Step 2C

4.15 The risk of effects in the absence of environmental measures was then defined based upon the interaction between the magnitude of emission and the highest level of area sensitivity (determined in Steps 2A and 2B, respectively) for each dust generating activity. The risk of dust effects was determined, as presented in Table 14.

Table 14 Summary of the Risk of Dust Effects

Potential Impact	Risk		
	Earthworks	Construction	Trackout
Dust soiling	Medium Risk	Low Risk	Medium Risk
Human health	Low Risk	Negligible	Low Risk
Ecological	n/a	n/a	n/a

- 4.16 As indicated in Table 14, the potential risk of dust soiling is medium for earthworks and trackout and low for construction. The potential risk of human health impacts is low for earthworks and trackout and negligible and construction. The potential risk of dust impacts on ecological sites is not applicable for all construction activities. The assessment has therefore indicated that the maximum risk of dust effects is **medium**, as a worst case.
- 4.17 It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the edge of the site boundary. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phase.

Step 3

- 4.18 The IAQM construction dust guidance (Ref 3) provides potential mitigation measures to reduce impacts as a result of fugitive dust emissions during the construction phase. These have been adapted for the Proposed Project based on the risk of dust effects (Table 14) and are summarised in Table 15. The mitigation measures identified have been incorporated into the Outline Construction Environmental Management Plan (CEMP).

Table 15 Proposed Dust Mitigation Measures based on IAQM Guidance (Ref 3)

Mitigation Measure	Medium Risk Measures. H=Highly Recommended. D=Desirable
Communications	
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	H
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	H
Display the head or regional office contact information.	H
Dust Management	
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority.	H
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.	H
Make the complaints log available to the local authority when asked.	H
Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.	H
Monitoring	

Mitigation Measure	Medium Risk Measures. H=Highly Recommended. D=Desirable
Undertake regular 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.	D
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	H
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	H
Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the Local Authority. Where possible, commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.	H
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.	H
Enclose specific operations where there is a high potential for dust production, where possible.	H
Avoid site runoff of water or mud.	H
Keep site fencing, barriers and scaffolding clean using wet methods.	H
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site	H
Consider seeding stockpiles and bunds to prevent wind whipping.	H
Operating vehicle/machinery and sustainable travel	
Ensure all vehicles switch off engines when stationary - no idling vehicles.	H
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	H
Impose and signpost a maximum-speed-limit of 15mph haul roads and work areas (if long haul routes are required, these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where appropriate).	D

Mitigation Measure	Medium Risk Measures. H=Highly Recommended. D=Desirable
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).	D
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, when necessary	H
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	H
Use enclosed chutes and conveyors and covered skips.	H
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	H
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.	H
Waste Management	
Avoid bonfires and burning of waste materials.	H
Earthworks	
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	D
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.	D
Only remove the cover in small areas during work and not all at once.	D
Construction	
Avoid scabbling (roughening of concrete surfaces) if possible.	D
Ensure sand and other fine aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.	D
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.	H

Mitigation Measure	Medium Risk Measures. H=Highly Recommended. D=Desirable
Avoid dry sweeping of large areas.	H
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	H
Record all inspections of haul routes and any subsequent action in a site log book.	H
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site where reasonably practicable).	H
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.	H

Step 4

- 4.19 Assuming the relevant mitigation measures outlined in Table 15 are implemented, the residual effect from all dust generating activities is predicted to be not significant.

5 References

Ref 1 – Institute of Air Quality Management (2017) Guidance on Land-Use Planning and Development Control: Planning for air quality v1.2.

Ref 2 - Environmental Protection Act (1990) Part III, Section 79 Statutory Nuisances and Clean Air.

Ref 3 - Institute of Air Quality Management (2024) Guidance on the Assessment of Dust from Demolition and Construction Version 2.2.

Ref 4 - Defra UK Air website. 2018-based background maps. Available online at: <https://uk-air.defra.gov.uk/data/laqm-background-home>

Arcadis Consulting (UK) Limited

1st Floor, 12 King Street
Leeds
LS1 2HL
United Kingdom

[arcadis.com](https://www.arcadis.com)