



Tillbridge Solar

PEI Report Volume II Appendix 6-1: Dust Risk Assessment
April 2023

tillbridgesolar.com

@: info@tillbridgesolar.com T: 0800 046 9643

Prepared for:

Tillbridge Solar Ltd

Prepared by:

AECOM Ltd

© 2023 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1. Dust Risk Assessment.....	1
------------------------------	---

1. Dust Risk Assessment

- 1.1 This section presents the Dust Risk Assessment undertaken as a qualitative assessment of the impact of construction.
- 1.2 The Dust Risk Assessment considers the potential dust emissions magnitude at each stage of the works in conjunction with the sensitivity of the surrounding area. Based on these parameters, the site is classified as low, medium or high risk, and mitigation measures corresponding to the perceived level of risk can then be proposed.
- 1.3 The assessment considers the potential dust risk across a set of pre-defined zones, up to 350m from the Scheme. These zones are presented in **PEI Report Volume III Figure 6-2**.
- 1.4 The Dust Risk Assessment is provided in Table 1. Responses are written in italics.

Table 1: Dust Risk Assessment

STEP 1 – SCREENING

1a.	Is a human receptor site within: 50m of Scheme	Y
	50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s)	Y
1b.	Is an ecological receptor site within: 50m of the Scheme	N
	50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s)	N

IF ANSWERS TO 1A OR 1B ARE 'YES' COMPLETE 1C AND COMPLETE THE ASSESSMENT

1c.	<p>Provide a description of the proposed demolition and construction activities, their location and duration and any phasing of the development, including:</p> <ul style="list-style-type: none"> • The proximity and number of receptors; • The specific sensitivity of the receptor(s), e.g. a primary school or hospital; • The duration for which the sources of dust emissions may be close to the sensitive receptors; and • In the case of PM₁₀ the local background concentration. <p><i>Construction is anticipated to commence in 2025 with a peak in 2026, operation to commence in 2027; sources of dust emissions likely to occur during this construction period. The greatest potential for dust effects is likely to occur during the excavation and earthworks phases.</i></p> <p><i>Whilst the Scheme is located in a sparsely populated rural area, there are a number of receptors in proximity to the Scheme that may be affected by the works. This includes high sensitivity receptors such as residential properties, as well as medium sensitivity receptors such as commercial, office, warehouse units and farm buildings.</i></p> <p><i>Defra background maps indicate an average background PM₁₀ concentration of 15.5 µg/m³ across the Study Area in 2021. This is well below the annual average objective value (40 µg/m³).</i></p>
-----	---

STEP 2 – ASSESS THE RISK OF DUST IMPACTS

STEP 2A – Define the Potential Dust Emission Magnitude

DEMOLITION PHASE

2a(i)	Is the volume of demolition:	
	<p>Large</p> <ul style="list-style-type: none"> • Total volume of building to be demolished (>50,000 m²); or • Potential dusty construction material (e.g. concrete); or • On-site crushing and screening; or • Demolition activities >20m above ground level. 	N/A
	<p>Medium</p> <ul style="list-style-type: none"> • Total volume of building to be demolished 20,000 m³ – 50,000m³; or • Potential dusty construction material; or • Demolition activities 10-20 m above ground level. 	N/A
	<p>Small</p> <ul style="list-style-type: none"> • Total volume of building to be demolished <20,000 m³; or • Construction material with low potential for dust release (e.g. metal cladding or timber); or • Demolition activities <10m above ground level and demolition during wetter months. 	N/A

EARTHWORKS PHASE

2a(ii)	Is the scale of the earthworks:	
	<p>Large</p> <ul style="list-style-type: none"> • Total site area >10,000m²; or • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size); or • >10 heavy earth moving vehicles active at any one time on-site; or • Formation of stockpile enclosures >8m in height; or • Total material moved >100,000 tonnes (where known). 	Y
	<p>Medium</p> <ul style="list-style-type: none"> • Total site area 2,500 m²-10,000 m²; or • Moderately dusty soil type (e.g. silt); or • 5-10 heavy earth moving vehicles active at any one time on-site; or • Formation of stockpile enclosures 4-8m in height; or • Total material moved 20,000-100,000 tonnes (where known). 	N/A
	<p>Small</p> <ul style="list-style-type: none"> • Total site area <2,500 m²; or • Soil type with large grain size (e.g. sand); or • <5 heavy earth moving vehicles active at any one time onsite; • Formation of stockpile enclosures <4min height; or • Total material moved <10,000 tonnes (where known), or earthworks during wetter months. 	N/A

CONSTRUCTION PHASE

2a(iii)	Is the scale of the works:	
	<p>Large</p> <ul style="list-style-type: none"> • Total building volume >100,000 m²; or • Piling; or • On-site concrete batching; or • Sandblasting. 	Y – site area exceeds 100,000m ²
	Medium	N/A

	<ul style="list-style-type: none"> Total building volume 25,000 m³-100,000 m³; or Potentially dusty construction material (e.g. concrete); or On-site concrete batching. 	
	<p>Small</p> <ul style="list-style-type: none"> Total building volume <25,000 m³; or Construction material with low potential for dust release (e.g. metal cladding or timber). 	N/A

TRACKOUT

2a(iii)	Only receptors within 50m of the route(s) used by vehicles on the public highway and up to 500m from the site entrance(s) are considered to be at risk from the effects of dust. Will the trackout be:	
	<p>Large</p> <ul style="list-style-type: none"> >50 Heavy Duty Vehicle (HDV; >3,5t) outward movements in one day; Potentially dusty surface material (e.g. high clay/silt content); or Unpaved road length >100m. 	Y
	<p>Medium</p> <ul style="list-style-type: none"> 10-50 HDV (>3,5t) outward movements in any one day; Moderately dusty surface material (e.g. high clay content); or Unpaved road length 50-100m (high clay content) 	N/A
	<p>Small</p> <ul style="list-style-type: none"> <10 HDV (>3.5t) trips in any one day; Surface material with low potential for dust release; or Unpaved road length <50m. 	N/A

STEP 2B – Define the Sensitivity of the Area

Define the Receptor Sensitivity

2b(i)	Sensitivity of People to Dust Soiling Effects	
	Is the location a:	
	<ul style="list-style-type: none"> High sensitivity receptor 	Y
	<ul style="list-style-type: none"> Medium sensitivity receptor 	N/A
	<ul style="list-style-type: none"> Low sensitivity receptor 	N/A
2b(ii)	Sensitivity of People to Health Effects of PM ₁₀	
	Is the location a:	
	<ul style="list-style-type: none"> High sensitivity receptor 	Y
	<ul style="list-style-type: none"> Medium sensitivity receptor 	N/A
	<ul style="list-style-type: none"> Low sensitivity receptor 	N/A
2b(iii)	<p>Sensitivity of Receptors to Ecological Effects</p> <p>An 'ecological receptor' refers to any sensitive habitat affected by dust soiling. This includes the direct impacts on vegetation or aquatic ecosystems of dust deposition, and the indirect impacts on fauna (e.g. on foraging habitats). For locations with a statutory designation, e.g. Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs), consideration should be given as to whether the particular site is sensitive to dust and this will depend on why it has been designated. Some non-statutory sites (i.e. local wildlife sites) and/or locations with very specific sensitivities may also be considered if appropriate.</p> <p><i>There is one Ancient Woodland site (Burton Wood) located 550m of the Scheme. This is over 350m from the Scheme Boundary. Whilst the exact Site access points of the cable corridor have not been confirmed, Burton Wood is assumed to be over 500m from any Site access point. No ecological sites will be considered further in this assessment.</i></p>	

Estimate the number of receptors and the distance from the Scheme in the closest buffer with receptors:

There are between 40-50 residential dwellings within 20m of the Scheme, with additional receptors within the full 350m buffer.

Combined Sensitivity of the area for Dust Soiling Effects:

HIGH. The presence of 10-100 high sensitivity receptors (i.e. residential dwellings) within 20m of the Site boundary results in a combined HIGH sensitivity for Dust Soiling Effects.

Combined Sensitivity of the area to Human Health Impacts:

LOW. Annual mean PM_{10} concentrations of <24 across the Study Area in conjunction with the presence of <100 sensitive receptors within 20m of the Site boundary result in a combined LOW sensitivity for Human Health Impacts.

Combined Sensitivity of the area to Ecological Impacts:

LOW. There are no nationally designated, potentially sensitive ecosystems are situated within 500m of the Site boundary, thus a combined LOW sensitivity of the Study Area to Ecological Impacts.
