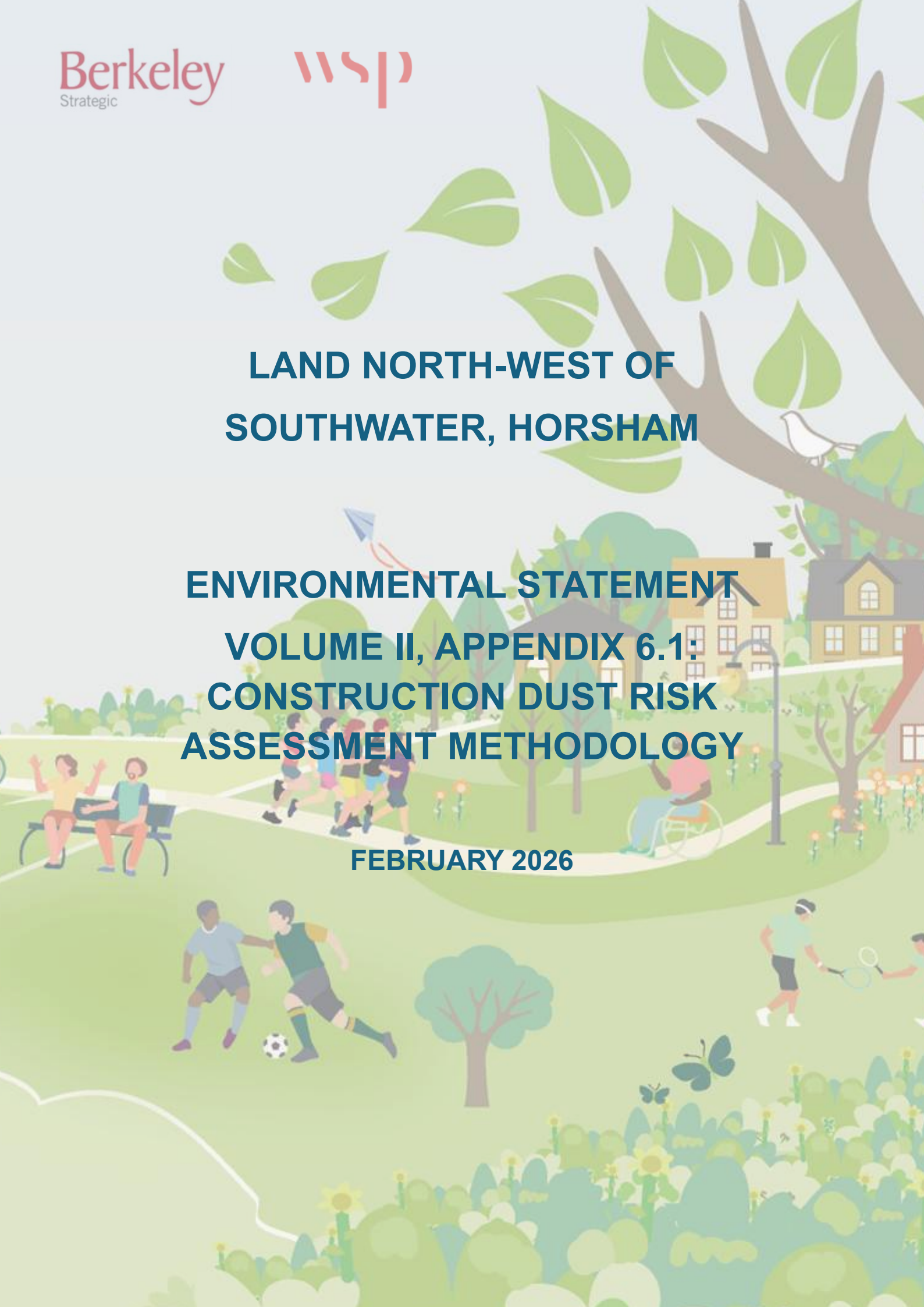


**LAND NORTH-WEST OF
SOUTHWATER, HORSHAM**

**ENVIRONMENTAL STATEMENT
VOLUME II, APPENDIX 6.1:
CONSTRUCTION DUST RISK
ASSESSMENT METHODOLOGY**

FEBRUARY 2026





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6.1 CONSTRUCTION DUST RISK ASSESSMENT METHODOLOGY

6.1.1. STEP 1 – SCREENING THE NEED FOR A DETAILED ASSESSMENT

An assessment will normally be required where there are:

- ‘Human receptors’ within 250m of the site boundary; and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s); and/or
- ‘Ecological receptors’ within 50m of the site boundary; and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).

Where the need for a more detailed assessment is screened out, it can be concluded that the level of risk is “negligible”.

6.1.2. STEP 2A – DEFINE THE POTENTIAL DUST EMISSION MAGNITUDE

The following are examples of how the potential dust emission magnitude for different activities can be defined. It should be noted that not all the criteria need to be met for a particular class. Other criteria may be used if justified in the assessment.

Dust emissions magnitude	Activity
Demolition	
Large	Total building volume >75,000m ³ ; Potentially dusty construction material (e.g. concrete); On-site crushing and screening; Demolition activities >12m above ground level
Medium	Total building volume 12,000m ³ – 75,000m ³ ; Potentially dusty construction material; Demolition activities 6m – 12m above ground level
Small	Total building volume <12,000m ³ ; Construction material with low potential for dust release (e.g. metal cladding or timber); Demolition activities <6m above ground; Demolition during wetter months
Earthworks	
Large	Total site area >110,000m ² ; Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size); >10 heavy earth moving vehicles active at any one time; Formation of bunds >6m in height
Medium	Total site area 18,000m ² – 110,000m ² ; Moderately dusty soil type (e.g. silt); 5 – 10 heavy earth moving vehicles active at any one time; Formation of bunds 3m – 6m in height
Small	Total site area <18,000m ² ; Soil type with large grain size (e.g. sand); <5 heavy earth moving vehicles active at any one time; Formation of bunds <3m in height
Construction	
Large	Total building volume >75,000m ³ ; On site concrete batching; Sandblasting
Medium	Total building volume 12,000m ³ – 75,000m ³ ; Potentially dusty construction material (e.g. concrete); On site concrete batching

Dust emissions magnitude	Activity
Small	Total building volume <12,000m ³ ; Construction material with low potential for dust release (e.g. metal cladding or timber)
Trackout	
Large	>50 HDV (>3.5t) outward movements in any one day; Potentially dusty surface material (e.g. high clay content); Unpaved road length >100m
Medium	20-50 HDV (>3.5t) outward movements in any one day; Moderately dusty surface material (e.g. high clay content); Unpaved road length 50m – 100m
Small	<20 HDV (>3.5t) outward movements in any one day; Surface material with low potential for dust release; Unpaved road length <50m

6.1.3. STEP 2B – DEFINE THE SENSITIVITY OF THE AREA

The sensitivity of the area takes 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 PM₁₀, the local background concentrations; and site-specific factors, such as whether there are natural shelters to reduce the risk of wind-blown dust.

A number of attempts have been made to categorise receptors into high, medium and low sensitivity categories.

Sensitivities of human receptors to dust soiling effects

Sensitivity	Example
High sensitivity receptor – surrounding land where	Users can reasonably expect 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, hospitals and schools
Medium sensitivity receptor – surrounding land where	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 People of 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
Low sensitivity receptor – surrounding land where	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

Sensitivity	Example
	Examples include playing fields, farmland, footpaths and short-term car parks

Sensitivities of ecological receptors

Sensitivity	Example
High sensitivity receptor	<p>Locations with an international or national designation and the designated features may be affected by dust soiling</p> <p>Locations where there is a community of a particular dust sensitivities species such as vascular species included in the Red Data List for Great Britain</p> <p>Examples include a Special Area of Conservation designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings</p>
Medium sensitivity receptor	<p>Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown</p> <p>Locations with a national designation where the features may be affected by dust deposition</p> <p>Examples include a Site of Special Scientific Interest with dust sensitive features</p>
Low sensitivity receptor	<p>Locations with a local designation where the features may be affected by dust deposition</p> <p>Examples include a local nature reserve with dust sensitive features</p>

The tables below show how the sensitivity of the area may be determined for dust soiling, human health and ecosystem impacts, respectively. These tables take into account a number of factors which may influence the sensitivity of the area.

Sensitivity of the area to dust soiling effects on people and property (amenity effects)

Receptor sensitivity	Number of receptors	Distance from the source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
High	10-100	High	Medium	Low	Low
High	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Sensitivity of the area to PM₁₀ (human health effects)

Receptor sensitivity	Annual mean PM ₁₀ concentration	Number of receptors	Distance from the source (m)			
			<20	<50	<100	<250
High	>32 µg/m ³	>100	High	High	High	Medium
High	>32 µg/m ³	10-100	High	High	Medium	Low
High	>32 µg/m ³	1-10	High	Medium	Low	Low
High	>28-32 µg/m ³	>1	High	Medium	Low	Low
High	<24 µg/m ³	>10	High	Medium	Low	Low
High	<24 µg/m ³	1-10	Medium	Low	Low	Low
Medium	>32 µg/m ³	>10	High	Medium	Low	Low
Medium	>32 µg/m ³	1-10	Medium	Low	Low	Low
Medium	<24 µg/m ³	>1	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low

Sensitivity of the area to dust (ecological effects)

Receptor sensitivity	Distance from the source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

6.1.4. STEP 2C – DEFINE THE RISK OF IMPACTS

The dust emissions magnitude determined at Step 2A should be combined with the sensitivity of the area determined at Step 2B to determine the risk of impacts with no mitigation applied. The matrices in the tables below provide a method of assigning the level of risk for each activity. This should be used to determine the level of mitigation that must be applied. Mitigation is discussed in Step 3. For those cases where the risk category is 'negligible', no mitigation measures beyond those required by legislation will be required.

Risk of dust impacts

Sensitivity of surrounding area	Dust emission magnitude		
	Large	Medium	Small
Demolition			
High	High risk	Medium risk	Medium risk
Medium	High risk	Medium risk	Low risk
Low	Medium risk	Low risk	Negligible
Earthworks, Construction and Trackout			
High	High risk	Medium risk	Low risk
Medium	Medium risk	Medium risk	Low risk
Low	Low risk	Low risk	Negligible

6.1.5. STEP 3 – SITE SPECIFIC MITIGATION

Having determined the risk categories for each of the four activities it is possible to determine the site-specific measures to be adopted. These measures will be related to whether the site is considered to be a low, medium or high-risk site.

The IAQM guidance details the mitigation measures required for high, medium and low risk sites as determined in Step 2C.

6.1.6. STEP 4 – DETERMINE SIGNIFICANT EFFECTS

Once the risk of dust impacts has been determined in Step 2C and the appropriate dust mitigation measures identified in Step 3, the final step is to determine whether there are significant effects arising from the construction stage. For almost all construction activities, the application of effective mitigation should prevent any significant effects occurring to sensitive receptors and therefore the Residual effect will normally be negligible.



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