Dust Management Scheme

Site Address
Althrey Woodhouse
Overton Road
Bangor on Dee
Cheshire
LL13 0DA

Date
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Prepared by
MossCo LLP

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Introduction

This Dust Management Scheme and accompanying Dust Receptor Plan have been prepared in connection with a Discharge of Conditions application relating to the replacement dwelling at Althrey Woodhouse, Althrey Woodhouse, Overton Road, Bangor on Dee, Cheshire, LL13 0DA.

This document follows the methodology for assessing the risk of dust from construction as set out in *Guidance on the assessment of dust from demolition and construction January 2024 (Version 2.2)* published by the Institute of Air Quality Management (IAQM).

Section 1: Screen the Need for a Detailed Assessment

A dust assessment will normally be required where there is:

- A ‘human receptor’ within:
  - 250 m of the boundary of the site; and/or
  - 50 m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).
- An ‘ecological receptor’ within:
  - 50 m of the boundary of the site; and/or
  - 50 m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).



Dust Receptor Plan (see attached)

The Dust Receptor Plan shows properties within 250m of the boundary of the site, meeting the ‘human receptor’ test for a detailed assessment.

Section 2: Define the Potential Dust Emission Magnitude

Dust Magnitude of Emission Criteria

Source	Magnitude		
	Large	**Medium**	**Small**
Demolition	Total building volume >75,000m^3, potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >12m above ground level	Total building volume 12,000m^3 – 75,000m^3, potentially dusty construction material, demolition activities 6-12m above ground level	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	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	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	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	Total building volume >75,000m^3, on site concrete batching, sandblasting	Total building volume 12,000m^3 – 75,000m^3, potentially dusty construction material (e.g. concrete), on site concrete batching	Total building volume <12,000m^3, construction material with low potential for dust release (e.g. metal cladding or timber)
Trackout	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m	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	<20 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Dust Emission Magnitude

Activity	Assessment	Dust Emission Magnitude
Demolition	Existing building volume <12,000m^3 Potentially dusty construction material – brick Total overall height 7.3m	Medium
Earthworks	Total site area <18,000m^2,sandy soils <5 heavy earth moving vehicles active at any one time No formation of bunds <3m in height	Small
Construction	Total proposed building volume <12,000m^3 Potentially dusty construction materials – concrete, brick	Medium
Trackout	<20 HDV (>3.5t) outward movements in any one day Tarmac access road and parking	Small

Section 3: Define the Sensitivity of the Area

Receptor Sensitivity

High sensitivity receptor

- Users can reasonably expect enjoyment of a high level of amenity; or
- The appearance, aesthetics or value of their property would be diminished by soiling; and
- 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.
- Indicative examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.

Medium sensitivity receptor

- 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; or
- The appearance, aesthetics or value of their property could be diminished by soiling; or
- 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.
- Indicative examples include parks and places of work.

Low sensitivity receptor

- The enjoyment of amenity would not reasonably be expected; or
- Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or
- 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.
- Indicative examples include playing fields, farmland (unless commercially-sensitive horticultural),
- Footpaths, short term car parks and roads.

Table 1: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the source (m)			
		<20	<50	<100	<250
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

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Table 2: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual mean PM_{10} concentration	Number of Receptors	Distance from the source (m)			
			<20	<50	<100	<250
High	>32µg/m^3	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32µg/m^3	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28µg/m^3	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24µg/m^3	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32µg/m^3	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	28-32µg/m^3	>10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
	24-28µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	<24µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	≥1	Low	Low	Low	Low

Annual mean PM_{10} concentration for postcode LL13 0DA = 9.4µg/m^3

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Table 3: Sensitivity of the Area to Ecological Impacts

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

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Summary Table: Outcome of Defining the Sensitivity of the Area

Potential Impact	Sensitivity of the surrounding area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Low	Low	Low	Medium
Human Health	Low	Low	Low	Low
Ecological	Low	Low	Low	Low

Section 4: Define the Risk of Impacts

Table 4: Risk of Dust Impacts – 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

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Table 5: 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

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Table 6: Risk of Dust Impacts – Construction

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

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Table 7: Risk of Dust Impacts – Trackout

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

Source: Guidance on the assessment of dust from demolition and construction – January 2024 (Version 2.2), IAQM

Summary Table: Defining Site-Specific Mitigation

Potential Impact	Risk			
	Demolition	**Earthworks**	**Construction**	**Trackout**
Dust Soiling	Low Risk	Negligible	Low Risk	Low Risk
Human Health	Low Risk	Negligible	Low Risk	Negligible
Ecological	Low Risk	Negligible	Low Risk	Negligible

Section 5: Site Specific Mitigation

1. 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. Display the head or regional office contact information.

2. 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.

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

4. 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.

5. 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.

6. Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.

7. Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.

8. Avoid site runoff of water or mud.

9. Ensure all vehicles switch off engines when stationary – no idling vehicles.

10. Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.

11. 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.

12. Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate

13. Use enclosed chutes and conveyors and covered skips.

14. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

15. Avoid bonfires and burning of waste materials.

16. Ensure effective water suppression is used during demolition operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.

17. Avoid explosive blasting, using appropriate manual or mechanical alternatives.

18. Bag and remove any biological debris or damp down such material before demolition.

Section 6: Determine Significant Effects

No significant effects.