

Appendix 12.1 – Construction Dust

Table A.12.1: Dust emission magnitude

Dust emission magnitude		
Small	Medium	Large
Demolition		
- total building volume <20,000m³ - construction material with low potential for dust release (e.g. metal cladding or timber) - demolition activities <10m above ground - demolition during wetter months	- total building volume 20,000 - 50,000m³ - potentially dusty construction material - demolition activities 10 - 20m above ground level	- total building volume >50,000m³ - potentially dusty construction material (e.g. concrete) - on-site crushing and screening - demolition activities >20m above ground level
Earthworks		
- total site area <2,500m² - 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 <10,000 tonnes - earthworks during wetter months	- total site area 2,500m² - 10,000m² - 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 - 100,000 tonnes	- total site area >10,000m² - 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 >8m in height - total material moved >100,000 tonnes
Construction		
- total building volume <25,000m³ - construction material with low potential for dust release (e.g. metal cladding or timber)	- total building volume 25,000 - 100,000m³ - potentially dusty construction material (e.g. concrete) - on-site concrete batching	- total building volume >100,000m³ - on-site concrete batching - sandblasting
Trackout		
<10 HDV (>3.5t) outward movements in any one day - surface material with low potential for dust release - unpaved road length <50m	10 – 50 HDV (>3.5t) outward movements in any one day - moderately dusty surface material (e.g. high clay content) - unpaved road length 50 – 100m;	>50 HDV (>3.5t) outward movements in any one day - potentially dusty surface material (e.g. high clay content) - unpaved road length >100m

Table A.12.2: Sensitivity of the area to dust soiling effects

Receptor sensitivity	Number of receptors	Distance from the source (m)			
		< 20	< 50	< 100	< 350
High	> 100	High	High	Medium	Low
	10 – 100	High	Medium	Low	Low

Receptor sensitivity	Number of receptors	Distance from the source (m)			
		< 20	< 50	< 100	< 350
	< 10	Medium	Low	Low	Low
Medium	> 1	Medium	Low	Low	Low
Low	> 1	Low	Low	Low	Low

Table A.12.3: Sensitivity of the area to human health impacts

Background PM ₁₀ concentrations (annual mean)	Number of receptors	Distance from the source (m)				
		< 20	< 50	< 100	< 200	< 350
High receptor sensitivity						
> 32µg/m ³	> 100	High	High	High	Medium	Low
	10 – 100			Medium	Low	
	< 10			Low		
28 – 32µg/m ³	> 100	High	High	Medium	Low	Low
	10 – 100		Medium	Low		
	< 10					
24 – 28µg/m ³	> 100	High	Medium	Low	Low	Low
	10 – 100					
	< 10	Medium	Low			
< 24µg/m ³	> 100	Medium	Low	Low	Low	Low
	10 – 100	Low				
	< 10					
Medium receptor sensitivity						
> 32µg/m ³	> 10	High	Medium	Low	Low	Low
	< 10	Medium	Low			
28 – 32µg/m ³	> 10	Medium	Low	Low	Low	Low
	< 10	Low				
24 – 28µg/m ³	> 10	Low	Low	Low	Low	Low
	< 10					
< 24µg/m ³	> 10	Low	Low	Low	Low	Low
	< 10					
Low receptor sensitivity						
–	> 1	Low	Low	Low	Low	Low

Table A.12.4 : Sensitivity of the area for ecological impacts

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

Table A.12.5: Risk of dust impacts

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

Figure A.12.1: IAQM dust assessment methodology

