

Technical Appendix 5.3: Criteria for assessing dust emission impacts, as per IAQM Guidance on Construction Impacts - 2014

Below are presented a series of criteria used to assess the Dust Emission magnitude for Demolition, Earthworks, Construction and Trackout as set out in IAQM guidance.

Table 1: Dust emission class determination criteria for demolition activities without mitigation

Demolition Criteria	IAQM Dust Emission Class		
	Small	Medium	Large
Installation Volume	<20,000m ³	20,000m ³ – 50,000m ³	>50,000m ³
<u>Material Dust Potential</u>	Metal/timber cladding, demolition activity <10m above ground, during wetter months.	Potentially dusty demolition material, activities at 10-20m above ground.	Potentially dusty demolition material (e.g. concrete). Onsite crushing and screening, demolition activities >20m above ground level.

Table 2: Dust emission class determination criteria for earthwork activities without mitigation

Earthworks Criteria	IAQM Dust Emission Class		
	Small	Medium	Large
Site Area	<2,500m ²	2,500 – 10,000m ²	>10,000m ²
Soil Type	Sand	Silt	Clay (dry)
Earthmoving equipment	<5 veh at a time	5 – 10 veh at a time	>10 veh at a time
Bunds	<4m high	4 – 8m high	>8m high
Material Moved	<10,000 tonnes	20,000 - 100,000 tonnes	>100,000 tonnes
Timing of Works	During wetter months	Various conditions	During drier months

Table 2: Dust emission class determination criteria for track-out without mitigation

Trackout Criteria	IAQM Dust Emission Class		
	Small	Medium	Large
Number of HDV (>3.5t) per day	<10	10-50	>50
Extent of unconsolidated surfaces (i.e. unpaved road length)	<50m	50 – 100m	>100m
Surface material dust potential	Low	Moderately dusty i.e. some clay content	Potentially dusty i.e. high clay content

Table 3: Dust emission class determination criteria for construction activities without mitigation

Construction Criteria	IAQM Dust Emission Class		
	Small	Medium	Large
Installation Volume	<25,000m ³	25,000m ³ -100,000m ³	>100,000m ³
Dust Potential of Construction Activities	Use of materials with low potential for dust release (e.g. metal cladding or timber)	e.g. use of dusty material such as concrete/bal last; piling	e.g. on-site concrete batching, sandblasting

Table Error! No text of specified style in document.5 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	<350
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

Table 6 Sensitivity of the area to human health impacts

Receptor Sensitivity	Annual Mean PM10 Concentration	Number of Receptors	Distance Form the Source				
			<20	<50	<100	<200	<350
High	>32µg/m ³ (>18µg/m ³ in Scotland)	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32µg/m ³ (16-18µg/m ³ in Scotland)	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m ³ (14-16 µg/m ³ in Scotland)	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m ³ (<14 µg/m ³ in Scotland)	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	>10	High	Medium	Low	Low	Low
	-	1-10	Medium	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Below are present a series of criteria for assessing the sensitivity of different types of receptor to dust soiling, health effects and ecological effects.

Table 7 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