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DUST EMISSIONS MANAGEMENT PLAN
for
EDEN WORKS TRANSFER STATION
KELBROOK, LANCASHIRE

Report No 112/2

October 2024

For

Blackburn Skips Limited
Handbridge Mill
Oxford Road
Burnley
BB11 3AZ

BBS WASTE MANAGEMENT SERVICES

DOCUMENT CONTROL

DOCUMENT TITLE	Dust Emissions Management Plan
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APPENDICES

DRAWINGS

1. INTRODUCTION

1.1 Report Context

1.1.1 Starling Environmental Limited (SEL) has been commissioned by Blackburn Skips Limited to prepare an environmental permit variation application for their waste transfer station at Eden Works, Colne Road, Kelbrook, Lancashire, BB18 6SH. The site is regulated under environmental permit EPR/JB3101SK.

1.1.2 The site currently operates under Standard Rules 2015 No 6: 75kte household, commercial and industrial waste transfer station with treatment. It is proposed to vary the permit to a bespoke permit to allow external storage of a wider range of waste types, fines processing in the yard and also to add a number of new waste codes. A Dust Emissions Management Plan (DEMP) is required to support the permit variation application.

1.1.3 Waste treatment at the site consists of mechanical treatment using a trommel followed by sorting on a manual picking line inside a large building. The trommel fines by-product are further processed outside using screening plant to recover hardcore from the fines.

1.1.4 The treatment and movement of waste, storage of wastes, and associated HGV movements have the potential to generate dust emissions which may pose a risk of dust soiling impacts, ecological impacts or risks to human health. HGVs and plant also have the potential to generate exhaust emissions.

1.1.5 The aim of the DEMP is to identify the potential risks of fugitive dust emissions associated with treatment of waste conducted at the site. Impacts to identified receptors are assessed and the required mitigation measures for the management of any dust or other emissions are provided.

1.1.6 The DEMP is part of the Environmental Management System (EMS) for the site and is for use by management and site operators. A copy will be located within the site office.

1.1.7 The DEMP has been prepared using the following guidance:

- Environment Agency Risk Assessment for Environmental Permits[1]
- Institute of Air Quality Management (IAQM)[2]
- Control & Monitor Emissions for your Environmental Permit[3]

[1] https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit (last updated Nov 2023)
[2] IAQM Guidance on the assessment of dust from demolition and construction, January 2014. Whilst this guidance is specifically for 'construction dust', in the absence of separate guidance for dust from waste or mineral sites, the IAQM guidance can be used as a starting point for waste dust assessment with appropriate modification or minor adjustments.
[3] https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit (last update Nov 2022)

1.1.8 All drawings referenced are contained in Appendix A.

1.2 Site Location and Surrounding Area

1.2.1 The site is located on the Eden Works Business Park accessed from the A56 (Colne Road), situated to the north of Kelbrook, a small settlement 3 km to the southeast of Barnoldswick, Lancashire. The approximate National Grid Reference for the centre of the site is SD 90252 45199. The site location is shown on Drawing No 112/01.

1.2.2 Surrounding land use includes farmland to the east and industrial units to the south, west and north. Neighbouring units within the industrial estate includes pre-cast concrete manufacture, vehicle storage, building suppliers yards and other industrial uses.

1.2.3 The nearest residential properties are situated approximately 95 m to the north of the site located on Colne Road.

1.3 Background Air Quality

1.3.1 Reference to the interactive DEFRA Air Quality Management Area (AQMA) mapping tool[4] identifies that the site is not located within an AQMA for PM_{10}.

1.3.2 The UK Ambient Air Quality Interactive Map[5] shows background concentrations of pollutants for the area and is presented in Table 1 along with air quality standards. Background concentrations of all pollutants are below the limit values for protection of human health as shown in Table 1 below.

Pollutant	**2022 Background concentration** µg/m³	**Air Quality Standard Limit value / Objective** µg/m³
Nitrogen Dioxide (NO_2)	5.83	40*
Fine Particulate Matter (PM_{10})	8.74	40*
Very Fine Particulate Matter ($PM_{2.5}$)	5.8	10**

Table 1: Background Air Quality for 2022

Notes
***** The Air Quality Standards Regulations 2010 (amended in 2016)
****** The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

1.4 Climate Details

1.4.1 Figure 1 below shows a wind rose for data collected at Leeds which is the closest recording station at approximately 40 km to the east.

[4] https://uk-air.defra.gov.uk/aqma/maps
[5] Data obtained using interactive background maps https://uk-air.defra.gov.uk/data/gis-mapping

1.4.2 The wind rose shows that the prevailing wind direction is from the west and south-west with wind speeds most frequently between 7 – 15 mph, ie gentle to moderate breeze on the Beaufort scale. The strongest winds typically come from the west and are recorded at speeds greater than 20 mph, ie fresh breeze and above.

1.4.3 With reference to the data it is considered that wind direction at Eden Works will be variable but with a prevalence towards the east.

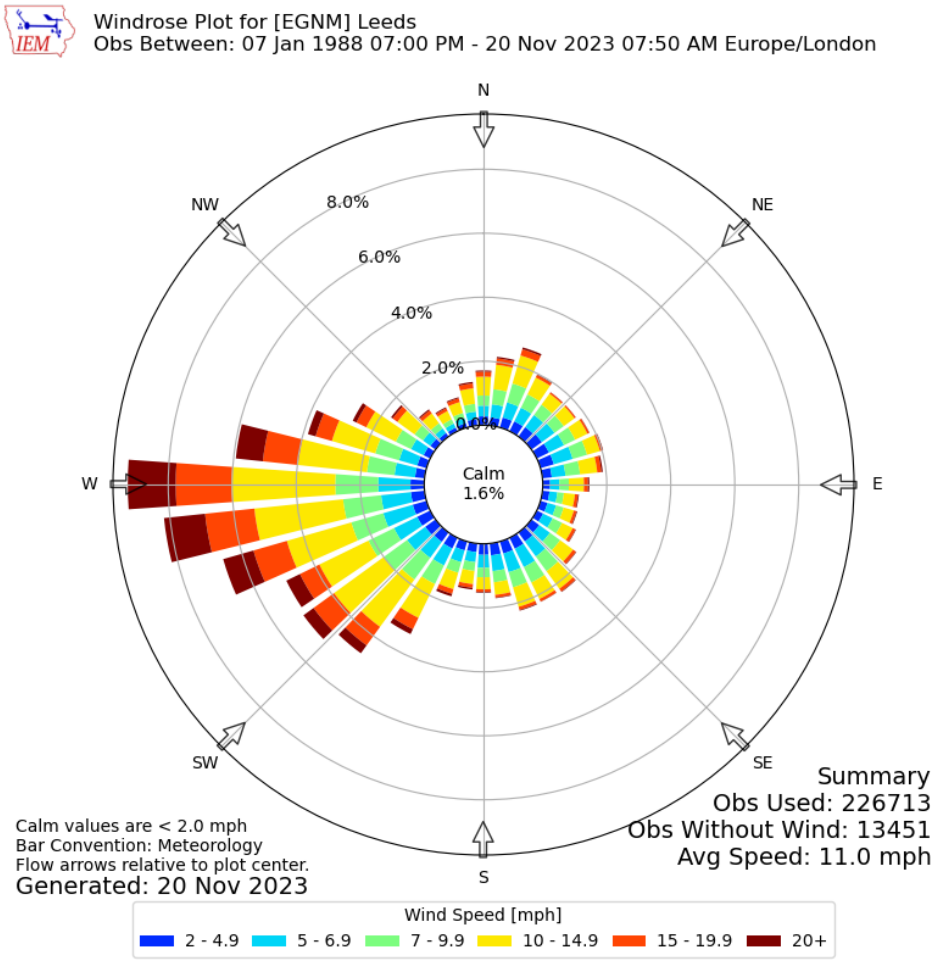


Figure 1: Wind Rose

Rainfall

1.4.4 Reference has been made to Met Office data for Bingley available on the met office website[6], the nearest climate recording station to the site at approximately 21 km east. Total average annual rainfall during the period 1991 to 2020 was 1057 mm. The number of days of rainfall greater than or equal to 1 mm was 156 days on average each year.

[6] https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcw435f21

2. ASSESSMENT OF RECEPTORS

2.1 Receptors

2.1.1 EA Guidance requires that receptors within 1 km of the site that may be impacted by dust are identified, and that a further assessment is made to identify which of these are sensitive. Drawing No 112/03 shows the site and surrounding area setting.

2.1.2 Table 2 lists the receptors located within 1 km of the site and their distance and direction from the site, along with the reference as per Drawing No 112/03.

2.2 Receptor Sensitivity Assessment

2.2.1 The sensitivity of each receptor to dust soiling effects, human health effects and the ecological effects of dust deposition has been assessed using the IAQM guidance[3].

2.2.2 The sensitivity assessment follows the IAQM guidance and is based on number of receptors and distance from the source. For example, residential properties are considered to be highly sensitive to dust however the sensitivity reduces with distance from site. The assessment method is contained in Appendix B.

2.2.3 The sensitivity of surrounding receptors to human health effects has been assessed based on 2022 background annual mean PM_{10} concentration at 8.74 µg/m^3 which is well below the annual mean Air Quality Objective of 40 µg/m^3.

Ref	Receptor	Direction from	Approximate Distance from (m)	No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Domestic Dwellings							
1	Closest residences off Colne Road (A56), Sough	N	95 - 620	10-100	Low	Low	
	Residences on Church Lane, Kelbrook	S	260	<10	Low	Low	-
	Residences on Colne Road, Harden Road and Main Street, Kelbrook	S	430	10-100	Low	Low	-
	Residences in Kelbrook	S	750 – 1 Km	10-100	Low	Low	-
	Residences in Green End	N	795 – 1 Km	10-100	Low	Low	
	Turnstead Farm	E	380	<10	Low	Low	
	Spen Head Farm, Spen Farm, Moor Farm, Alpha Street	NW	710 - 740	<10	Low	Low	
	Moor Hall	NE	950	<10	Low	Low	
	Residences in North Holme	N	660 – 1 Km	10-100	Low	Low	-
Industrial/Commercial Premises							
2	AM Bowden Groundworks	N	5	10-100	Medium	Low	
	EP Climbing	W	Adjacent	10-100	Medium	Low	-
	Wolfenden Concrete	S	6	10-100	Medium	Low	
	Subaru Car Dealership	NW	20	10-100	High*	Low	
	Other industrial/commercial business on Eden Park	S	80 – 150	10-100	Low	Low	
	Lower Greenhill Caravan Park	W	780	10-100	Low	Low	
Water Features							
3	Drain/Ditch	E	Adjacent	-	-	-	Low
	Kelbrook Beck	W	100	-	-	-	Low
	New Cut	W	265	-	-	-	Low
	Drains	E, S, W, N	310 – 1 Km	-	-	-	Low
	Salterforth Beck	W	485	-	-	-	Low
Amenity/Recreation							
4	Sough Park Recreation Ground	NNE	360	10-100	Low	Low	-
	Kelbrook Playing Field	SSW	430	10-100	Low	Low	-
Highway/Major Road or Transport Link							
5	Colne Road (A56)	W	70	-	Low	Low	-
	Kelbrook Road (B6383)	S	620	-	Low	Low	-

Table 2: Potential Receptors Within 1 km

Ref	Receptor	Direction from	Approximate Distance from (m)	No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Public Rights of Way							
6	Footpaths and Tracks	N,E,W,S	80 – 1km	-	Low	Low	-
Designated Sites/ Ecological Receptors							
7	LWS Colne/Skipton disused Railway	W	140	-	Low	Low	Low
	Priority Habitat Deciduous Woodland	W	250	-	Low	Low	Low
Schools/Colleges							
8	Kelbrook Primary School	S	640	10-100	Low	Low	-
Farmland							
9	Farmland	N, S, E, W	Adjacent – 1 Km	-	Low	Low	-
Hospitals/Care Homes							
-	None identified	-	-	-	-	-	-

Table 2 (cont): Potential Receptors Within 1 km

Notes: Receptor sensitivity has been determined using the IAQM guidance 'Define the Sensitivity of the Area'.

* The car dealership has been elevated from medium to high as it would be more sensitive to dust if displaying new cars for sale

Residential Receptors

2.2.4 The site is located on an industrial estate which itself is located in a semi-rural area. The closest residential receptors are situated approximately 95 m to the north of the site on Colne Road. Whilst residential receptors are classified as 'high sensitivity' receptors, due to their distance from source (ie. > 50 m), these properties are assessed as having low sensitivity to both dust soiling and human health impacts from site activities.

2.2.5 All other residential properties are located over 250 m from the site so are also assessed as having low sensitivity to both dust soiling and human health impacts.

Commercial/Industrial Receptors

2.2.6 The site lies within the Eden Works Business Park which include a number of building suppliers yards, a vehicle depot and concrete cast manufacturers. The closest industrial receptors are EP Climbing immediately to the west, AM Bowden Groundworks 5 m to the north and Wolfenden Concrete/Building Supplies 6 m to the south. There is a Subaru garage/dealership approximately 20 m to the north-west.

2.2.7 The IAQM consider places of work as being 'medium sensitivity' receptors to both dust soiling and human health effects. The industrial premises located less than 20 m from the site (as detailed in Paragraph 2.2.6 above) are therefore assessed as having 'medium sensitivity'. However, the sensitivity of the Subaru garage has been increased to 'high' as the operation will be more sensitive to dust than the surrounding industrial receptors.

2.2.8 Sensitivity to human health impacts is low due to the low background concentration of PM_{10}.

Major Roads/Transport Links

2.2.9 In accordance with the IAQM guidance, receptors where human exposure is transient (eg. roads) are considered as having low sensitivity to both dust soiling and human health impacts.

Public Rights of Way

2.2.10 There are a number of public footpaths in the area, one (13-5-20) is adjacent to the site and runs parallel to the eastern boundary. In accordance with IAQM, receptors where human exposure is transient (eg. footpaths and roads) are considered as having low sensitivity to both dust soiling and human health impacts.

Water Features

2.2.11 There is a drain/ditch present which runs adjacent to the eastern boundary of the site. This drain is approximately 130 m in length and does not discharge into any other drain or watercourse, rather any water contained in the ditch would 'sink' to groundwater as shown on the Site Layout Plan (Drawing No 112/02).

2.2.12 In accordance with the IAQM guidance, the identified water features in the area are classified as having low sensitivity to ecological effects from dust deposition.

Amenity/Recreation

2.2.13 There are two amenity/recreation receptors identified within 1 km of the site; Sough Park Recreation Area which is located 360 m to the north-north-east and the Kelbrook playing field which is located approximately 430 m south-south-west. These recreational areas are considered as having low sensitivity to both dust soiling and human health impacts due to the transient nature of exposure and distance from site.

Hospitals/Care Homes

2.2.14 There were no hospitals or care homes identified within 1 km of the site.

Designated Sites/Ecological Receptors

2.2.15 There are no local nature reserves or nationally designated sites within 1 km of the site. There is one local wildlife site approximately 140 m west of the site, the Colne/Skipton disused railway. This LWS also incorporates a small area of priority habitat deciduous woodland located approximately 250 m to the west of the site.

2.2.16 Priority habitat woodland and local wildlife sites are not nationally designated sites, and as such they are classified by the IAQM as having low sensitivity to ecological effects from dust deposition.

Schools/Colleges

2.2.17 Kelbrook Primary School is the only school identified within 1 km of the site and is located approximately 640 m to the south. Due to the distance from site this receptor is assessed as having low sensitivity to both dust soiling and human health effects.

2.3 Other Local Sources of Dust

2.3.1 On the industrial estate there is Bowden Groundworks 5 m to the north and Wolfenden Concrete/Building Supplies 6 m to the south. Both of these operations are potential sources of dust.

3. SITE OPERATIONS

3.1 Site Layout

3.1.1 The site area is approximately 5,200 m^2 and features includes a waste processing building of approximately 720 m^2, a workshop, portacabin style offices and a weighbridge. There is a large concreted yard which provides parking for vehicles, storage space for empty skips and waste storage in both concrete block bays and containers.

3.1.2 The site is securely fenced with a combination of palisade fencing approximately 2 m high to the west and north with lockable security gates at the entrance on the western boundary. The eastern and southern perimeter is secured with fencing and concrete block walls.

3.1.3 The yard is mostly surfaced with concrete, with a small portion on the west as hardstanding. The extent of the concreted area is shown on the Site Layout Plan. Drawing No 112/02. The operator plans to concrete the hardstanding area before the end of December 2024.

3.1.4 Surface water is contained within the site by a shallow concrete bund (speed-bump style) and water drains to an interceptor at the low point towards the workshop. From there it is pumped to public sewer which is located to the west, close to Colne Road.

3.1.5 The waste processing building is fitted with lockable doors. The base of the building comprises a reinforced concrete pavement. A CCTV system is in use at the site to provide additional security.

3.1.6 Site features are shown on the Site Layout Plan, Drawing No 112/02.

3.2 Waste Processing Operations

3.2.1 HGVs enter the site via the gated entrance. Drivers are instructed that all loads should be covered prior to entering and leaving site.

3.2.2 If a load is found to be dusty, it will be dampened down during tipping using a hosepipe.

3.2.3 The majority of waste brought to site is skips from household renovation or building projects. Waste is processed primarily inside a large transfer station building, and by-product fines are further processed in the yard. Waste is stored both inside the transfer station building and also in the yard in containers and concrete block bays. Treatment and storage locations are shown on the Site Layout Plan, Drawing No 112/02.

Transfer Station Building

3.2.4 Full skips are deposited inside the transfer building in the waste reception area. Waste is pre-sorted in the reception area by removing large pieces of uPVC, plasterboard, hardcore, scrap metal or green waste. Any waste identified as WEEE is also removed to a segregated area. This is carried out by both manual picking and with the aid of a mechanical grab. This waste is removed and placed into one of the general waste storage containers for onward recycling.

3.2.5 The remaining waste is fed into the treatment process which consists of mechanical treatment using a trommel followed by sorting on a manual picking line. Materials recovered from this process include hardcore, soil, scrap metal (ferrous and non-ferrous) and wood. Scrap metal is stored in bays below the picking line and the soil, wood, hardcore are conveyed out of the building and stored in external bays.

Yard

3.2.6 The trommel produces fines as a by-product which are conveyed outside and stored in a dedicated storage bay. These are further processed using an external flip-flow screening plant to recover hardcore from the fines. The screening plant is covered by a canopy constructed with steel frame and corrugated roof panels. Both fractions produced by the flip-flow screener are stored outside.

3.3 Waste Storage

3.3.1 Table 3 lists the storage location of the waste types and whether they are stored within containers or bays and the maximum stockpile height.

3.3.2 Storage bays in the yard are oriented to protect from wind whipping. The prevailing wind is towards the east and each bay has a concrete block wall on 3 sides, including both the western and eastern edges to protect from wind whipping. The bays along the eastern boundary are facing the direction of the prevailing wind but are contained by a wall along the eastern boundary. When the wind blows from the west then these stockpiles are protected by the boundary wall.

3.3.3 Waste stored in containers is protected from wind whipping on all sides.

3.3.4 Stockpiles of hardcore and soil are managed with 0.5 m freeboard to prevent wind whipping. Combustible waste stockpiles (wood and fines) are managed with a 1 m freeboard for fire prevention purposes.

Ref[1]	Waste Type	Maximum storage time	Location	Containment/ Stockpile type	Dimensions (m) (L x W x H)*	Maximum Volume[2] (approx m^3)
1	Incoming Mixed Waste	7 days	Building	Free standing	15 x 8 x 4	270
2	Fines		Building	Bay under trommel	4 x 2.1 x 2	10
3	Ferrous Metals		Building	Bay under picking line	2 x 3 x 2	8
4	General Waste		Building	Bay under picking line	3 x 3 x 2	12
5	General Waste		Building	Bay under picking line	3 x 3 x 2	12
6	Plasterboard		Building	Container	6.1 x 2.4 x 3.1	30.5
7	WEEE	4 weeks	Building	Builders bag/IBC	2 x 2 x 1	2
8	General Waste	7 days	Building	Container	6.1 x 2.4 x 3.1	38
9	General Waste		Building	Container	6.1 x 2.4 x 3.1	38
10	Mixed Metals		Building	Container	6.1 x 2.4 x 3.1	38
11	PVC		Yard	Container	6.1 x 2.4 x 3.1	38
12	Tyres	4 weeks	Yard	Container	6.1 x 2.4 x 2	22.9
13	Green Waste	7 days	Yard	Container	6.1 x 2.4 x 2.6	30.5
14	Green Waste		Yard	Container	6.1 x 2.4 x 2.6	30.5
15	Steel		Yard	Container	4.9 x 2.4 x 2	15.3
16	Fines		Yard	Three sided bay	8.5 x 8.3 x 4	212.5
17	Wood		Yard	Three sided bay	5.4 x 8.3 x 4	135

Table 3 (continued over): Waste Storage

Ref[1]	Waste Type	Maximum storage time	Location	Containment /Stockpile type	Dimensions (m) (L x W x H)*	Maximum Volume[2] (approx m^3)
18	Fines	7 days	Yard	bay	4.6 x 8.3 x 4	115
19	Fines		Yard	Bay under screener	4.7 x 2.8 x 1.5	14.1
20	Oversize Fines		Yard	Enclosed bay[3]	9.8 x 6 x 4	1666.6
21	Wood		Yard	Three sided bay	16.5 x 6 x	280
22	Hazardous wood		Building	Container	4.9 x 2.4 x 2	15.3
-	Non-Ferrous		Building	Bay under picking line	2 x 3 x 2	8
-	Aluminium	4 weeks	Yard	Container	4.9 x 2.4 x 2	15.3
-	Aggregates	7 days	Yard	Container	4.9 x 2.4 x 2	15.3
-	Hardcore		Yard	Two sided bay	3.9 x 8.3 x 4	97.5
-	Soil		Yard	Three sided bay	3.9 x 8.3 x 4	97.5
-	Hardcore		Yard	Three sided bay	9 x 8.3 x 4	225

Table 3 (continued): Waste Storage

Notes:
1- Stockpile location shown on Drawing No 112/04
2- Stockpile calculations are approximate only based on FPP Report 112/03
3 - Enclosed bay is 3 walled bay with a roof

3.4 Dust Control and Suppression

3.4.1 The majority of the site is surfaced with concrete so the deposition of mud from delivery vehicles is not considered to be a significant issue. There is a jet wash area next to the garage where skip wagons can be hosed down with a pressure washer to remove mud and debris. The location of the jet wash is shown on the site layout plan.

3.4.2 There is a small area of the yard in the west that is hardstanding. This area is used for storage of empty skips and is not a through-route or a general traffic area. It is proposed to concrete this area as part of site improvements as stated in paragraph 3.1.3.

3.4.3 Dust generated during mechanical treatment inside the building is contained within the building.

3.4.4 Dust generated during mechanical treatment in the yard will be contained by the canopy which is to be extended to cover the the entirety of the screening plant. The rear wall along the eastern boundary will be extended to meet the canopy roof. This will partially enclose the operation and prevent emissions across the eastern boundary.

3.4.5 There is a water hose in the yard next to the garage and jet wash. There is also a mobile bowser that is used to damp down stockpiles, external surfaces and dusty loads whilst tipping. The bowser is stored next to the garage as shown on the site plan.

3.4.6 The water bowser has a back spray valve which can be positioned flat to spray the yard surface and road or can be angled upwards to spray stockpiles at height. The back spray has a range of approximately 4.5 m so can cover a 4 m stockpile. In addition, the bowser has a lance attachment which can be used to spray target areas by operatives from gantries or other mobile plant. As the bowser is mobile it can be taken to any position on site and covers all of the site and surfaces.

3.4.7 Waste hardcore, wood and fines are conveyed out of the building directly into the storage bays in the yard. The conveyor heights are set below the top of the height of the bay to prevent wind whipping of material. Conveyors are uncovered but extend for a very short distance out of the building, of between 2 and 3 m.

3.5 Water Supply

3.5.1 The water supply to site is mains water. This is used to fill the bowser and for the jet wash.

3.5.2 In the event that the mains supply was disrupted for a significant period, for example due to a burst water main in the area, water supplies will be brought in in by tanker.

3.6 Mobile Plant and Equipment

3.6.1 Control of exhaust emissions from plant will be predominantly through use of high tier emissions standard[7] plant/machinery and regular inspection and maintenance of machinery.

3.6.2 IAQM guidance states that mobile plant are *'unlikely to make a significant impact on local air quality'*, and would not need to be assessed as part of an Air Quality Assessment.

3.6.3 Mobile plant (eg loader, shovel) will be used at the site. The operator will ensure all mobile plant used at the site will be predominantly high tier[7] emissions ratings plant.

3.6.4 Regular servicing of plant, vehicles and machinery will be carried out according to applicable legislation. If replacement of plant/machine is required then the plant with the highest emission standard affordable will be purchased.

3.6.5 Daily checks on vehicles and plant are carried out by operatives before use. Staff will be trained on the use of mobile plant to reduce emissions where possible, including anti-idling.

3.6.6 All drivers of mobile plant and operators of stationary plant will be trained in the correct and safe use of the relevant machinery to ensure that the operating techniques are undertaken in line with the guidance within the manufacturers' instructions.

3.6.7 Training records are maintained in the site office.

3.7 Dust Screening Features

3.7.1 Internal operations are contained by the transfer station building. This building consists of four walls and a roof, with access via two lockable steel doors. It does not operate under negative pressure and there is no dust extraction.

3.7.2 The yard is screened to the east and south with a concrete block wall approximately 4 m high. External operations are screened to the north by the transfer station building which is approximately 12 m high.

[7] Emissions Standards are set out in the 'Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999' as amended.

3.7.3 The screening plant is covered by a canopy roof which is to be extended to cover the entire eastern boundary. In addition, the concrete wall on the eastern boundary will be extended to meet the canopy roof to enclose the screening plant and storage bay on 3 sides.

3.7.4 There is screening to the north-west provided by the garage/workshop building which is approximately 12 m tall. The site is open in aspect to the west which is the site entrance and palisade fencing.

3.7.5 The Subaru garage which is considered a high sensitivity receptor has pathway screening from intervening buildings including the workshop and the AM Bowden Groundworks Building, shown on Drawing No 112/04. This receptor is situated north-west of the site and wind blowing in this direction is infrequent.

3.8 Summary of Controls

3.8.1 In summary, dust/particulate emission mitigation and control will primarily be through avoidance, containment and suppression as follows:

Avoidance:

- Concrete access road and yard
- Speed limit restrictions (ie. 10 mph)
- Movement of material at the site will be conducted by trained operators who are aware of the requirement for careful movement and avoidance of double handling
- All loads into or out of the site will be covered
- Daily inspections of site road and sweeping when required. Removal of mud from vehicles; and
- Minimising drop heights during tipping and movement of wastes both inside the building and in the yard and on conveyors.

Containment:

- The majority of waste processing is carried out inside the building which provides primary containment of emissions
- External stockpiles are housed in concrete block bays with at least 0.5 m freeboard to prevent wind whipping
- There is a canopy roof covering the screening plant in the yard (this will be extended and a wall erected to meet the canopy roof)

Suppression:

- A water hose and bowser is used to dampen stockpiles and surfaces; and
- Road and sweeping of the access road when required.

4. DUST AND PARTICULATE MANAGEMENT

4.1 Responsibility for Implementation of Plan

4.1.1 The Site Manager (SM) has overall responsibility for the control of the waste operations at the site and is responsible for ensuring that the procedures in the DEMP are followed. The SM will:

- Ensure that the DEMP is effectively communicated, and that staff are competent to undertake their roles
- Ensure that operations and management procedures outlined in this document are implemented and complied with
- Ensure that the DEMP is reviewed annually, or following:
  - Permit variation
  - Accident, complaint or breach of permit
  - Any major changes to site operations
- Completion and storage of all required records for the DEMP.

4.1.2 The SM may delegate some of the tasks listed above.

4.2 Sources and Control of Dust/ Particulates

4.2.1 Potential emissions that may be generated from waste operations at the site include the following:

- Dust from HGV movements
- Dust from emptying skips and movement of imported wastes
- Dust from mechanical treatment of wastes inside the building
- Dust from further processing of fines in the yard by the screening plant
- Dust from stockpiles of wood, fines, soil, hardcore in the yard
- Exhaust emissions from plant; and
- Exhaust emissions from HGV and mobile plant movements.

4.2.2 The deposition of mud from delivery vehicles is not considered to be a significant issue as traffic areas are concreted. If HGVs arrive with excessive mud, it will be removed using the hand-held jet wash.

4.2.3 Tables 4 and 5 below detail the sources of emissions at the site and include the pathways to identified receptors and mitigation measures.

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Overall Risk
Dust /particulates: Generated from emptying skips, processing, movement and storage of waste HGV movements	Atmospheric dispersion (wind-blown dust)	Surrounding industrial properties Closest residences off Colne Road Drains/ Kelbrook Beck, New Cut	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance:** Minimise drop heights during emptying of skips and movement of wastes. Clean up any spillages that occur during material loading into vehicles. Careful placement of material into processing plant, into vehicles or stockpiles by trained operatives. All HGVs are advised to cover loads entering and leaving the site. **Containment:** Trommeling carried out inside a building. Screening equipment in yard will be contained within 3 sided structure Fines storage bays will be contained on 3 sides **Management Control (EMS):** Visual dust monitoring during daily checks. Spraying of stockpiles and surfaces with bowser or hose in dry weather or if dry. Removal of mud from vehicles. Use of roadsweeper to dampen roads Damping down during tipping if load is dusty	**Low**

Table 4: Assessment of Risks from Dust/Particulates

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Overall Risk
Gaseous pollutants: HGV and mobile plant exhaust emissions	Atmospheric dispersion	Surrounding industrial properties Closest residences off Colne Road	Increase in airborne particles and in nitrogen dioxide, sulphur dioxide and associated human health impacts	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. **Management Control (EMS):** No engine idling. Regular inspection and maintenance. Use of higher tier emission standard machinery/plant where available.	**Very Low**

Table 5: Assessment of Risks from Gaseous Pollutants

4.3 Monitoring and Inspections

4.3.1 The SM or delegated representative will undertake daily visual inspections for dust soiling of surfaces to monitor effectiveness of the DEMP. Inspection results will be recorded in the site diary, and a record kept detailing weather conditions.

4.3.2 The site layout plan shows the location of the monitoring points.

4.3.3 Inspection results are recorded in the site diary, and a record kept detailing weather conditions, including the following information:

- Time monitoring carried out and results (dust observed at monitoring points? Deposited dust? Airborne dust?)
- Is external plant in use
- Weather conditions (wind direction, is it raining, damp or dry)
- Whether bowser deployed and where (stockpiles, surfaces or both)
- Whether sweeper deployed

4.3.4 If dust soiling is encountered contingency actions are taken as detailed in Section 5.

4.3.5 Site diary entries are discussed during daily meetings by the leadership team and any issues raised are actioned.

4.4 Housekeeping

4.4.1 A road sweeper is used for all site surfaces and the off-site road. In addition, the site surfaces are scraped clean using the loading shovel.

4.4.2 Table 6 below details the housekeeping schedule that is in place.

Frequency	Action
Daily	Visual inspection for dust on surfaces and plant – any actions required are recorded in the site diary Bowser deployed to spray site surface and stockpiles when not raining/not rained overnight Shovelling/tidying debris using loading shovel Manual sweeping in yard and transfer station building
Weekly	Road sweeper deployed to clean access road

Table 6: Housekeeping Schedule

5. CONTINGENCY AND ACTION PLAN

5.1 In the event that dust/particulates or excessive vehicle emissions are perceived as a concern following monitoring or as the result of a complaint, the source will be investigated by the SM.

5.2 When investigating any such report, the following factors will be considered:

- Location of the source relative to receptors
- Prevailing wind directions on site
- Dust/particulates and vehicle emissions from external sources

5.3 Remedial actions will be undertaken on an escalating basis and include the following:

- Use of bowser to dampen stockpiles
- Use of roadsweeper to dampen access road and clear any debris accumulated on site surfaces
- Simple repairs or modifications to plant or machinery or switching off equipment

5.4 The SM with the support of senior management will co-ordinate more complex responses, which could include liaising with regulators.

5.5 Any incidents, their outcomes and details of any remedial actions taken related to emissions will be recorded in the site diary.

5.6 The SM will ensure that the site is equipped with contingency provisions for replacement plant. The aim will be to repair equipment within 24 hours of breakdown.

5.7 If key suppression equipment cannot be repaired or replaced within 24 hours, the SM will consider whether to suspend processing operations. This decision will be based on the weather conditions and the potential impact of dust emissions as a result of the breakdown or system failure.

Adverse Weather

5.8 Approximation of wind strength is by the physical effects on site. A force 6 strong breeze on the Beaufort Scale is described as ‘large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty’. This would be the conditions under which external operations would be suspended if dust was being carried across the site.

5.9 A force 7 near gale on Beaufort Scale is described as ‘whole trees in motion; inconvenience felt when walking against the wind’. Under these conditions all external processing would be suspended.

Out of Hours Arrangements

5.10 The site operates Monday to Saturday and is closed on Sundays and Bank Holidays. In dry weather the stockpiles and surfaces will be damped on Saturdays before closing up for the weekend.

5.11 In prolonged dry spells the duty manager will visit the site and damp down on Sundays or bank holidays.

Failure of Water Supply

5.12 If the mains water supply fails then water tankers will be hired in for suppression.

5.13 Contingency Actions are summarised in Table 7.

Event	Action
Dust soiling on surfaces within site	- check if surfaces and stockpiles have been damped down, repeat if dry - check drop heights on conveyors are below height of bay walls
Staining or debris along access road	- as determined by site manager during daily inspection - deploy road sweeper
Visible dust plume being carried off site	-temporarily suspend operations to investigate source/cause of dust emission - repeat damping down of surfaces and stockpiles - suspension of treatment during strong winds if dust cannot be adequately contained (see explanation in paragraphs 5.7 and 5.8)
Complaints received from neighbours	- investigate the weather conditions on the day of complaint - check plant settings and identify any issues or errors - depending on cause of complaint carry out appropriate action listed above - report back investigation findings and action taken to complainant

Table 7: Contingency Actions

6. REPORTING AND COMPLAINTS PROCEDURES

6.1 Reporting of Complaints

6.1.1 Any complaints relating to the site will be recorded in the site diary. This includes complaints relating to dust or air quality.

6.1.2 All complaints received will be recorded and investigated by the SM. A response will be reported back to the complainant.

6.1.3 A record of incidents, accidents or non-conformances will be kept including the following information:

- Date and time of incident
- What happened
- What caused it
- Details of any contamination
- Who was involved
- What action was taken
- Were external agencies involved
- Any changes that have been made to the procedures/ EMS to ensure the incident does not reoccur

6.2 Management Responsibilities

6.2.1 The responsibility of handling complaints is with the SM with support from senior management. Incidents are investigated by the SM whereby rectifying action is determined.

6.3 Community Liaison

6.3.1 Liaison with immediate neighbours is undertaken by phone call or by visiting in person.

7. SUMMARY AND CONCLUSIONS

7.1 The site currently operates under Standard Rules 2015 No 6: 75kte household, commercial and industrial waste transfer station with treatment. Waste storage and processing is conducted in a large transfer building and also in the yard. It is proposed to vary the existing permit to a bespoke permit to allow external storage of a wider range of waste types, allow waste processing and storage in the yard and also add a number of new hazardous waste codes.

7.2 The treatment and movement of waste, storage of wastes, and associated HGV movements have the potential to generate dust emissions which may pose a risk of dust soiling impacts, ecological impacts or risks to human health.

7.3 The sensitivity of receptors to adverse impacts from dust has been assessed in accordance with IAQM guidance. The majority of the identified receptors in the surrounding area were assessed as having low sensitivity to both dust soiling and human health impacts due to their distance from dust sources at the site.

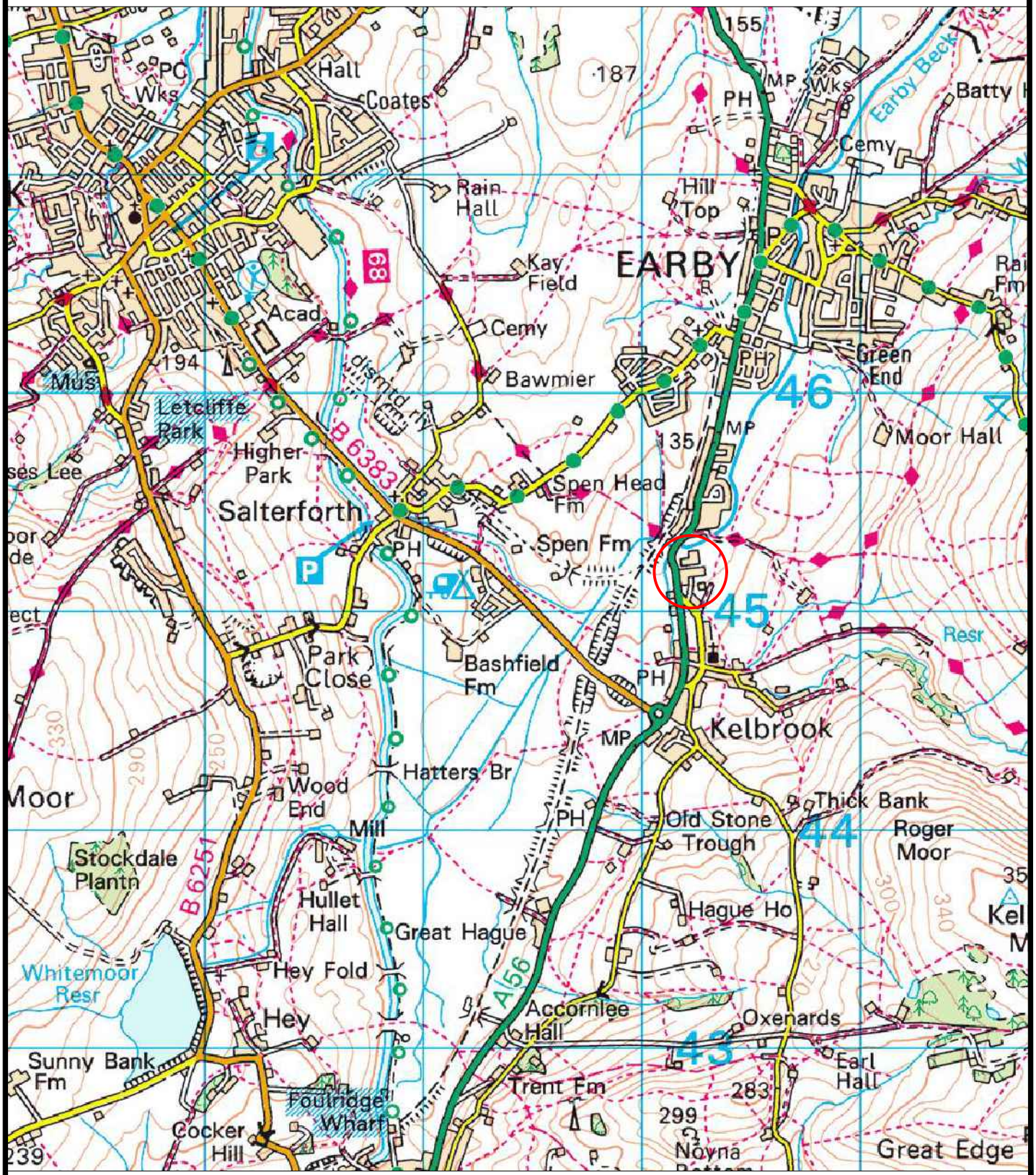
7.4 The site is located within the Eden Works Business Park and there are four industrial units that are located within 20 m of the site. These receptors were assessed as having ‘medium sensitivity’ to dust soiling due to their proximity to the site and ‘low sensitivity’ to human health impacts due to the low background concentration of PM_{10}. One of the receptors is a car dealership and so this has been elevated to ‘high’ sensitivity to dust soiling as an outlet selling new cars would be more sensitive to dust.

7.5 Dust/particulate emission mitigation and control measures in place at the site include avoidance, containment and suppression measures. Based on the measures in place at the site, the residual risk of dust emissions to identified medium and high sensitivity receptors has been reduced to ‘low’.

7.6 The DEMP will be reviewed annually as part of the annual review of the EMS, following any complaints received relating to emissions or following relevant variations to the waste operations.

APPENDIX A

Drawings

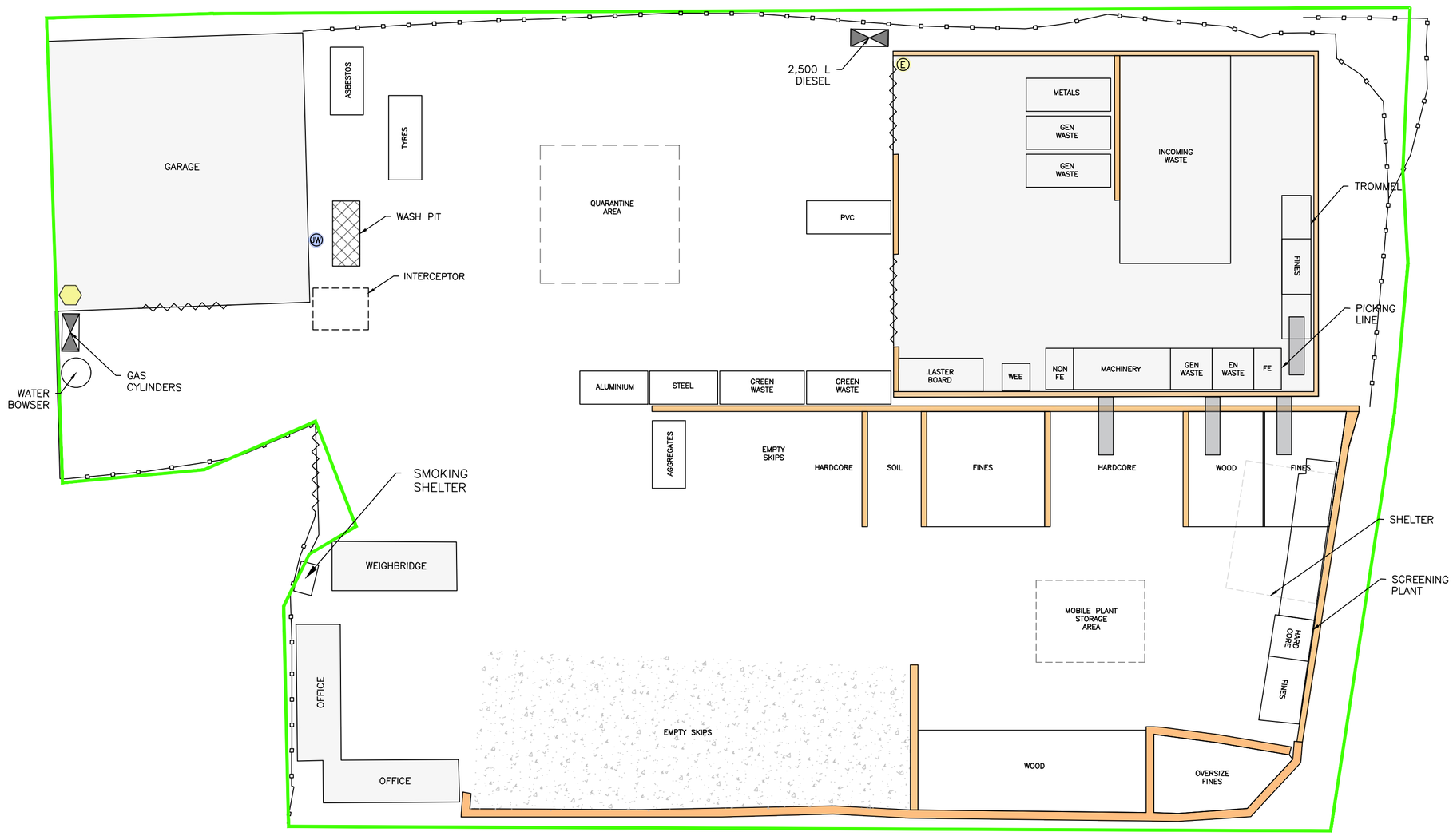


LEGEND ——— SITE LOCATION

STARLING ENVIRONMENTAL LIMITED
67 Chorley Old Road, Bolton,
Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT: BLACKBURN SKIPS LIMITED		DRAWN BY. M.Y.B	APPROVED BY. C.G
JOB TITLE. EDEN WORKS TRANSFER STATION, COLNE		DATE. 27/03/2024	DRAWING No. 112-01
DRAWING TITLE. SITE LOCATION PLAN		SCALE @ A4. 1:25,000	

SITE & SURROUNDING AREA PLAN
(SCALE 1:2000)



SITE LAYOUT PLAN SCALE 1:250

Legend

- PERMIT AREA
- GATES/SHUTTER DOORS
- PALLISADE/PANEL FENCING
- BUILDING
- MAINS WATER
- MAINS ELECTRIC
- SPILL KIT
- JET WASH
- FUEL/OIL STORAGE
- CONVEYOR
- HARDSTANDING
- FIRE WALL

NOTES:

SURFACING IS CONCRETE UNLESS HARDSTANDING AS SHOWN.

PREVAILING WIND DIRECTION (FROM THE WEST)

REV.	DESCRIPTION	DATE	BY

STARLING ENVIRONMENTAL LIMITED
67 Chorley Old Road, Bolton,
Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT.

BLACKBURN SKIPS LIMITED

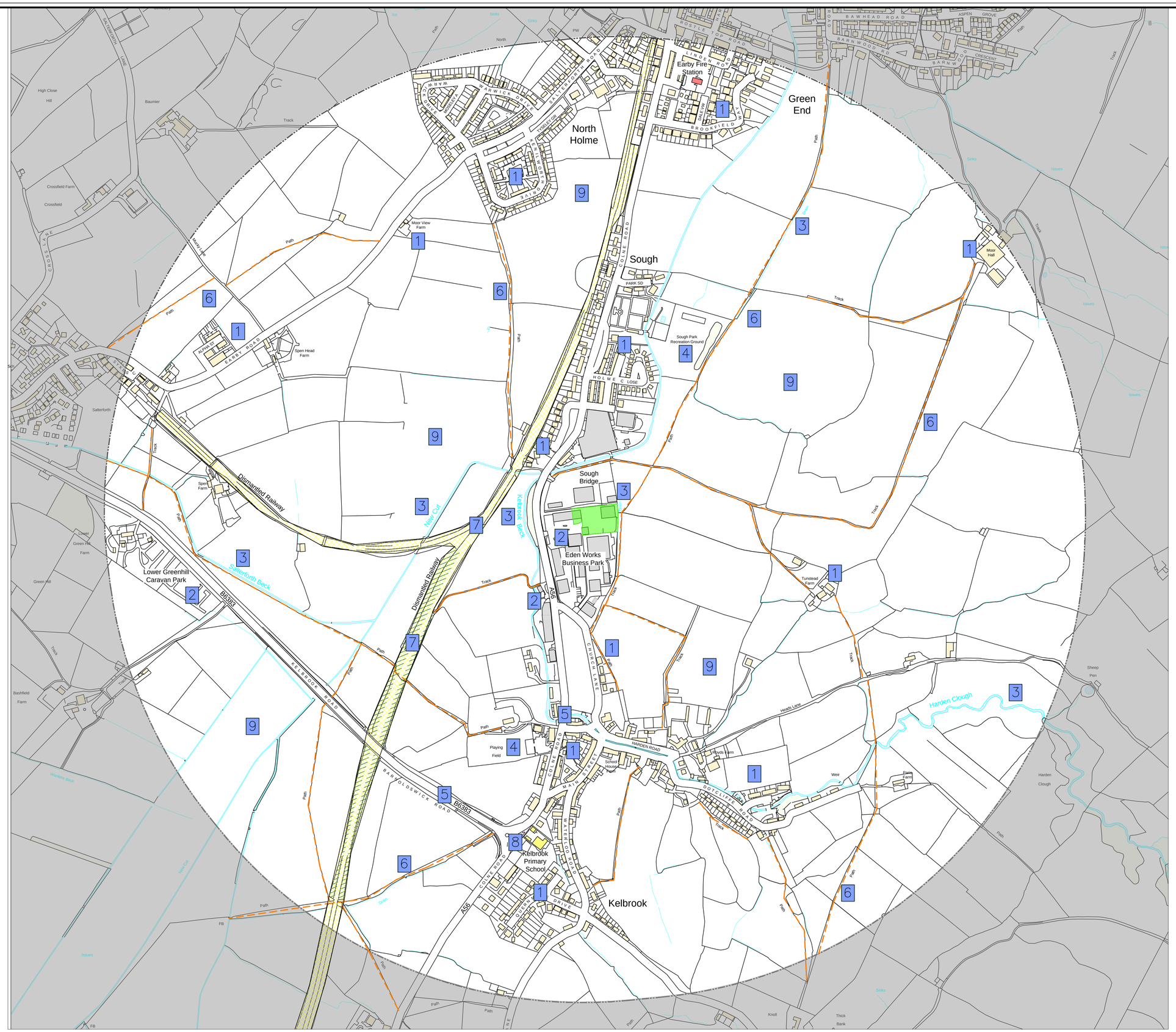
JOB TITLE.

EDEN WORKS
TRANSFER STATION
COLNE

DRAWING TITLE.

SITE LAYOUT PLAN

DRAWN BY.	APPROVED BY.	DRAWING No.
M.Y.B	C.G	112/02
DATE. 19/04/24	SCALE @ A2. AS SHOWN	



LEGEND

- PERMIT AREA
- 1 KM RECEPTOR BOUNDARY
- FOOTPATHS
- RESIDENTIAL AREA
- INDUSTRIAL/COMMERCIAL AREA
- SCHOOL
- WOODLAND
- WATERBODIES/WATERWAYS
- PRIORITY HABITAT DECIDUOUS WOODLAND
- LOCAL WILDLIFE SITE (COLNE/SKIPTON DISUSED RAILWAY
- FIRE STATION
- 1 RECEPTOR REFERENCE

PREVAILING WIND DIRECTION (FROM THE WEST)

REV.	DESCRIPTION	DATE	BY

STARLING ENVIRONMENTAL LIMITED
67 Chorley Old Road, Bolton,
Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT.
BLACKBURN SKIPS LIMITED

JOB TITLE.
EDEN WORKS
TRANSFER STATION
KELBROOK

DRAWING TITLE.
RECEPTORS
WITHIN 1 KM

DRAWN BY.	APPROVED BY.	DRAWING No.
M.Y.B	C.G	112/03
DATE. 08/03/24	SCALE @ A1. 1:4000	

APPENDIX B

Assessment Method

1 Assessment Method

1.1 The assessment proceeds stepwise as illustrated in Figure 2 below, reproduced from the IAQM Guidance on the assessment of dust from demolition and construction.

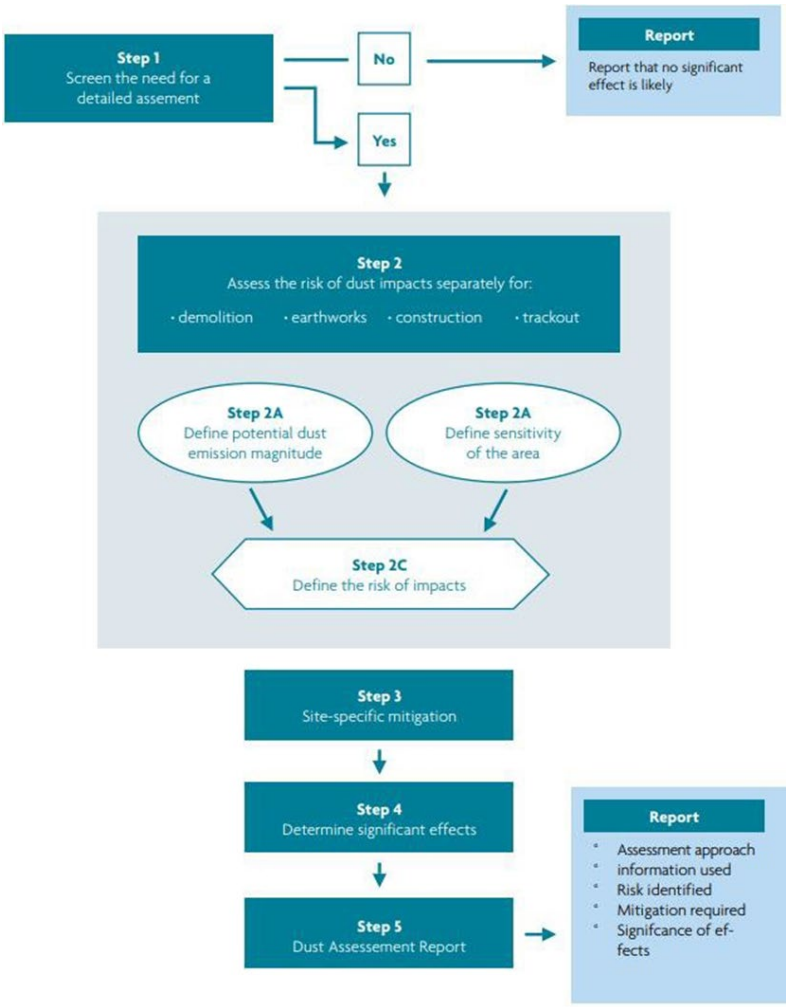


Figure A1: Assessment Procedure

2 Step 1: Screen the Need for a Detailed Assessment

2.1 An assessment is normally required when there is a human receptor within 350 m of the boundary of the site and 50 m of the route used by construction vehicles. This site fits within this location as it is surrounded by commercial operators which are considered human receptors and so will require an assessment.

3 Step 2: Assess the Risk of Dust Impacts

3.1 This step is split into three sections as follows:

- 2A -define the potential dust emission magnitude;
- 2B - define the sensitivity of the area; and
- 2C - define the risk of impacts.

3.2 In Step 2A, each of the dust-generating activities is examined and a dust emission magnitude determined depending on the scale and nature of the works based on the criteria shown in Table 3 below.

Dust emission magnitude		
Small	**Medium**	**Large**
Demolition		
• total building volume <20,000m^3 • 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 - 50,000m^3 • potentially dusty construction material • demolition activities 10 - 20m above ground level	• total building volume >50,000m^3 • potentially dusty construction material (e.g. concrete) • on-site crushing and screening • demolition activities >20m above ground level
Earthworks		
• total site area <2,500m^2 • 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 2,500m^2 - 10,000m^2 • 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 >10,000m^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 >8m in height • total material moved >100,000 tonnes

Table A1: Dust Emission Magnitude (continued over)

Construction		
• total building volume <25,000m^3 • construction material with low potential for dust release (e.g. metal cladding or timber)	• total building volume 25,000 - 100,000m^3 • potentially dusty construction material (e.g. concrete) • on-site concrete batching	• total building volume >100,000m^3 • 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 A1 continued: Dust Emission Magnitude

3.7 Step 2B requires the sensitivity of the surrounding area to be determined for each activity, based on the proximity and number of receptors, their sensitivity to dust, the local PM_{10} background concentrations and any other site-specific factors. Tables A2 to A4 show the criteria for defining the sensitivity of the area to different dust 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
	< 10	Medium	Low	Low	Low
Medium	> 1	Medium	Low	Low	Low
Low	> 1	Low	Low	Low	Low

Table A2: Sensitivity of the area to dust soiling effects

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		Medium	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 A3: Sensitivity of the area to human health impacts

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

Table A4: Sensitivity of the area for ecological impacts

3.8 The overall risk of the impacts for each activity is then determined (step 2C) prior to the application of any mitigation measures and an overall risk for the site derived.

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

Table A5: Risk of dust impacts

3.9 The receptor sensitivity assessment and determination of impacts includes assessment of receptors within 350 m of the site boundary and within 50 m of the access route up to 500 m from the site.

4 Step 3: Site Specific Mitigation

4.1 Once each of the activities is assigned a risk rating, appropriate mitigation measures are identified based on recommendations in the IAQM guidance. Where the risk is negligible, no mitigation measures beyond those required as best practice are necessary.

5 Step 4: Determine Any Significant Residual Effects

5.1 Once the risk of dust impacts has been determined and the appropriate dust mitigation measures identified, the final step is to determine whether there are any residual significant effects. The IAQM construction dust guidance notes that it is anticipated that with the implementation of effective site-specific mitigation measures, the environmental effect will not be significant in most cases.

6 Step 5: Prepare a Dust Assessment Report

6.1 The last step of the assessment is the preparation of a dust assessment.

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