Caulmert Limited

Engineering, Environmental & Planning Consultancy Services

Arpley 2 Waste Transfer Station

FCC Recycling (UK) Limited

Environmental Permit Variation Application

Dust & Emissions Management Plan

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Dust & Emissions Management Plan

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1.0 INTRODUCTION

1.1 Report Context

1.1.1 FCC Recycling (UK) Limited (a wholly owned subsidiary of FCC Environment (UK) Limited), have appointed Caulmert Limited to prepare an environmental permit variation application to add a "*Household, commercial and industrial waste transfer station*" activity to the existing permit ref. EPR/JB3633RP for their Arpley 2 Site ('the Site') in Huyton, Liverpool.

1.1.2 This will involve accepting up to 120,000 tonnes per year of Mixed Dry Recyclables (MDR) and residual Municipal Solid Waste (MSW) and other wastes from household, commercial and industrial sources for bulking up and temporarily storing within concrete bays inside the existing fully enclosed building prior to transferring off-site for further recovery and/or recycling.

1.1.3 This Dust & Emissions Management Plan (DEMP) covers the bulking, storage and transfer of MDR, MSW and the other proposed wastes, and provides details of appropriate control measures that are required for effective dust and emissions management at the site during operations at Arpley 2 Waste Transfer Station.

1.2 Objectives

1.2.1 This DEMP has the aim of ensuring that potential dust and emission sources are identified and controlled at source where possible. This DEMP also aims to minimise the risk of dust and airborne emissions impacting sensitive receptors outside of the site boundary.

1.2.2 As a minimum this DEMP will consider the following elements:

- An assessment of the risks of dust and airborne emissions problems at the site.
- Identify the appropriate controls to manage the identified risks.
- Monitoring of emissions.
- Identify actions, contingencies, and responsibilities when dust or emissions problems arise.
- Complaints procedures.
- Regular review of the effectiveness of the dust and emissions control measures.

1.2.3 The DEMP is supported by the procedures and controls established within the following site documents:

- The site's Environmental Management System (FCC).
- Activities & Operating Techniques report ref. 6109-CAU-XX-XX-RP-V-0305.
- Environmental Risk Assessment ref. 6109-CAU-XX-XX-RP-V-0301.

1.3 Audience

1.3.1 This Dust and Emissions Management Plan (DEMP) will be made available to all site operational staff and its contents distributed through regular site toolbox talks (or

equivalent). A hard copy will be kept in the site office and electronic copies stored in the database system.

1.3.2 A copy can be made available upon the request of the Environment Agency or other local regulatory bodies when required.

1.4 Site Setting and Location

1.4.1 The Site is located in an industrial estate off Stretton Way in Huyton, Liverpool, at postcode L36 6JF and is centred on National Grid Reference SJ 45870 90085.

1.4.2 The Site is situated 620m north-northwest of Junction 6 of the M62, approximately 2.5km to the southwest of Prescot. The site is in an industrial area, with other industrial units and warehouses surrounding the site to the northwest, west and south. The M57 motorway is 100m to the east of the Site boundary and the Liverpool to Manchester railway is located 690m to the north. The River Mersey is located over 7.2km to the southeast at its closest point and leads to the Mersey Estuary over 15km to the west. The Site location is shown below in Figure 1:

Figure 1 – Site Location

2.0 POTENTIAL SENSITIVE RECEPTORS

2.1 Overview

2.1.1 A sensitive receptor search was conducted of the surrounding area within a 1km radius of the site boundary using Defra's Magic Maps website[1] and the sensitive receptors identified are listed below in Table 2. The distance to each receptor is measured from the site permit boundary.

2.1.2 The site is not located within 1km of an Air Quality Management Area (AQMA). The closest AQMA is for NOx (NO2) approximately 1.6km to the southwest of the site boundary.

2.2 Designated Sites of Ecological Importance & Other Habitats

2.2.1 The Environment Agency (EA) Pre-Application Conservation Screen identified a fish migratory route adjacent to the Site (<10m to the west) in the Logwood Mill Brook as a European Eel Migratory Route. This receptor is less likely to be sensitive to dust, but due to the close proximity to site, if excessive dust was to be entrained as suspended solids in the water this may have a detrimental effect on the habitat within the watercourse.

2.2.2 There is one Ancient and Semi-Natural Woodland within 1km of the Site, The Old Wood (North and South) located 980m and 1km southeast of the Site, bordering the M62 motorway. Flora and fauna may be less sensitive to dust overall but if excessive dust is in the air, this can settle on leaves, and this may inhibit photosynthesis.

2.2.3 There are no Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Local Nature Reserves (LNR), National Nature Reserves (NNRs), Ramsar sites or Areas of Outstanding Natural Beauty (AONBs) within 2km of the site.

2.2.4 The closest designated habitat to Site is a Local Nature Reserve (LNR) located over 4.2km southwest from the Site, named Childwall Woods & Fields LNR. The next closest designated sites are a SSSI and SPA located over 7km to the south-southeast and southwest of the Site associated with the Mersey Estuary.

2.3 Summary of Identified Sensitive Receptors

2.3.1 The closest human receptors to the Site are workers and visitors of the surrounding industrial units located <10m north-northeast (Pine Precision Engineering), 20m east (Knowsley Council Depot and a Cemex Site), 20m south (Knowsley MBC Depot), 25m southwest (Caravan Storage/John Mason International Ltd) and 40m northwest (Veolia Depot). The Site is in an industrial area, with numerous other industrial and commercial units and warehouses to the northwest, west and south. These premises are likely to be

[1] DEFRA Magic Maps 2022: https://magic.defra.gov.uk/MagicMap.aspx

less sensitive to dust emissions due to the nature of the activities carried out on their own sites likely to produce dust.

2.3.2 Human receptors, particularly residents who live nearby, are most likely to be sensitive to dust emissions. The nearest residential receptors to the Site are houses located within the residential area around Logwood Rd 395m west-southwest from Site. Numerous other residential areas are located further to the east, north, west, and south (see Table 2 below).

2.3.3 St. Gabriel's Primary School is located 780m northwest of the Site and Sylvester Primary School is located 980m west. There are no hospitals within 1km of the Site, but there is one medical facility, Tarbock Medical Centre located 980m west of the site.

2.3.4 There are no public rights of way (footpaths, bridalways, byways) crossing the site or immediately adjacent to the site. The closest public right of way is located 200m northeast, associated with numerous other interconnecting paths crossing Stadt Moers Park (West View).

2.3.5 The sensitive receptors identified within 1km of the Site boundary are presented in Table 1 below:

Table 1 - Potential Receptors identified within 1km of the site boundary.

Receptor	Type	Distance/Direction
Pine Precision Engineering	Commercial/Industrial	<10m NNE
Logwood Mill Brook/ European Eel Migratory Route	Surface Water	<10m W
Knowsley Council Depot	Commercial/Industrial	20m E
Knowsley MBC Depot	Commercial/Industrial	20m S
Cemex Site	Commercial/Industrial	20m E
Caravan Storage/John Mason International Ltd.	Commercial/Industrial	25m SW
Veolia Depot	Commercial/Industrial	40m NW
Tarmac Huyton	Commercial/Industrial	70m NE
Commercial Units inc. Dulux Centre	Commercial/Industrial	85m NW
Commercial/Industrial Units along Ellis Ashton Street and Wilson Road	Commercial/Industrial	Between 20m and 545m to SSE Between 85m and 925m to NW
Users of M57 motorway	Public Road	100m E
Huyton HWRC	Commercial/Industrial	130m SSW
Industrial Units on Fallows Way/Windy Arbor area	Commercial/Industrial	Between 170m and 500m to E
Users of Stadt Moers Country Park and associated public footpaths/rights of way	Recreational	200m NE, 210m N

Receptor	Type	Distance/Direction
Tushingham's Lake	Surface Water	230m NE
Residential area around Logwood Rd	Residential	395m WSW
Residential area off Hale View Rd	Residential	435m NW
Residential area around Bridgewater Way	Residential	450m SW
Residential area off Cronton Rd and Bishop Drive	Residential	505m E
Users of Playing Fields	Recreational	580m NW, 585m W, 830m NW, 860m E
Residential area off Juniper Avenue	Residential	625m SE
Residential area south of Cronton Rd	Residential	675m SW
Liverpool to Manchester railway	Commercial/Industrial	690m N
Residential area off Wood Lane	Residential	695m NNW
Users of M62 Jnc. 6 and Coppice Lane Services (inc. hotels, food outlets etc.)	Public Road	705m SSE
St. Gabriel's Primary School	Residential	780m NW
St. Nicholas Church	Recreational	805m NE
Residential area off Pottery Lane	Residential	885m NE
Users of Allotments	Recreational	900m NE, 920m N
St. John's Millenium Green	Residential	950m W
Sylvester Primary School	Residential	980m W
Tarbock Medical Centre	Residential	980m W
The Old Wood North and South	Ancient Woodland	980m and 1km SE

2.4 Meteorological Setting

2.4.1 Fugitive emissions of dust from the site are likely to be affected by local weather conditions, in particular by wind direction. Wind statistics observed from Widnes weather station, the closest weather station actively recording wind statistics, are considered to be representative of the typical conditions at the site (Figure 2 below). Widnes weather station is located over 7km to the southeast of the site.

2.4.2 A review of the data recorded daily between February 2012 and January 2024 on the Windfinder.com[2] website indicates that the most dominant wind direction is from the east-southeast to the west-northwest, but with variations throughout the year. With reference to Table 1 above, predominant annual wind conditions are likely to blow towards the industrial/commercial units to the west-northwest along Ellis Ashton Street and Wilson Road but could also blow towards the residential area to the west.

[2] https://www.windfinder.com/windstatistics/widnes

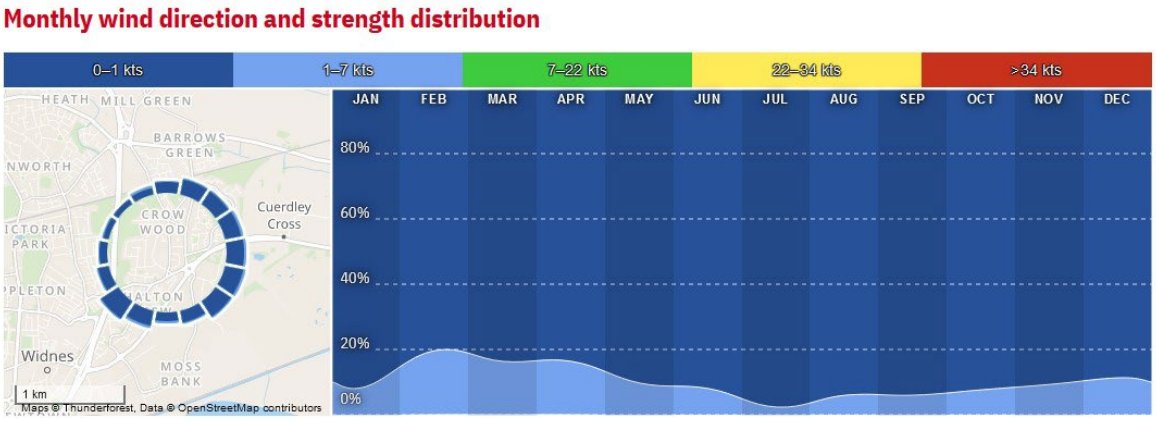


Figure 2 – Windes weather station wind statistics 2012-2024

3.0 OPERATIONS AT ARPLEY 2 WASTE TRANSFER STATION

3.1 Overview

3.1.1 The Arpley 2 Site is currently permitted as an installation, specifically a Section 5.4A(1)(b)(ii) activity for the "*Recovery of non-hazardous waste with a capacity exceeding 75 tonnes per day involving pre-treatment of waste for incineration or co-incineration*". The facility when operational pre-treats (inc. shredding) up to 120,000 tonnes per year of waste primarily to produce a Refuse Derived Fuel (RDF) which is baled and stored prior to being sent for incineration. Ferrous metals and other recyclable materials are also recovered as part of the treatment process. There is no history of dust complaints from the shredding and baling activities as part of these activities at the site.

3.1.2 This permit application is to add a "*Household, commercial and industrial waste transfer station*" activity to the existing permit ref. EPR/JB3633RP and retain the existing listed activity outlined above. The proposed activity involves accepting up to 120,000 tonnes per year of Mixed Dry Recyclables (MDR) and residual Municipal Solid Waste (MSW) and other wastes from household, commercial and industrial sources for bulking up and temporarily storing in 3m high piles in 4m high concrete bays inside the existing building prior to transferring off-site for further recovery and/or recycling. This proposed activity will not include treatment and therefore there will be much less agitation of the waste and a lower potential for dust emissions than from the previous RDF production activity.

3.1.3 All unloading, handling, storing and re-loading of wastes into vehicles will be undertaken within the building, which will have roller shutter doors kept closed when not in use and impermeable concrete surfacing. There will be no change to the existing permit boundary as part of this permit variation.

3.1.4 Surface water from waste storage areas discharges to a public foul sewer located on the road outside the facility, which has a stop valve fitted to isolate the waste building if required. Surface water from the northern end of the site discharges to Logwood Mill Brook through a private outfall and the southern end discharges to the same brook via a surface water sewer.

3.2 Waste Deliveries to and from Site

3.2.1 In order to prevent and reduce dust emissions from the proposed activities associated with the bulking and transfer operation, control measures will be implemented during waste deliveries.

3.2.2 Upon arrival at the site, incoming waste loads enter the weighbridge and undergo strict waste acceptance checks which include a visual inspection of the waste load by trained site personnel. This inspection verifies that the delivered waste matches the information provided during pre-acceptance and the waste transfer note. Any non-conforming or excessively dusty wastes will be rejected from site.

3.2.3 Waste will be delivered to site in covered vehicles to reduce any dust emissions from the load in transit.

3.2.4 Waste will be visually inspected, weighed and details will be recorded for every load using the computer record system for the following information:

1. Date and time of delivery.
2. Name and address of the waste producer.
3. Description of waste types including quantity.
4. How the waste is contained.
5. Carriers name and address.
6. Driver's name, signature, and vehicle registration No.
7. Signature or initial of person(s) accepting/inspecting the waste.
8. Additional handling details (e.g. notes made by the driver after inspecting the load).
9. SIC code of the premises which produced the wastes (if relevant).
10. Waste hierarchy declaration.
11. Information on previous treatment of the waste e.g. manual or mechanical.

3.2.5 Weighbridge personnel will also check that all vehicles are a registered waste carrier, any expired certificates will be advised to contact the Environment Agency.

3.2.6 If on the weighbridge, waste cannot be accurately categorised or is described incorrectly on the waste transfer note, the delivery driver will be directed to a Quarantine Area where the Site Manager or technically competent person will inspect the waste and decide whether it will be accepted to site or not.

3.2.7 If accepted, the waste transfer note is updated and the delivery driver is directed by the weighbridge clerk to the tipping area within the building. Further visual inspections are undertaken by site operatives in the tipping area to confirm the waste load conforms to the permitted waste list.

3.2.8 Designated unloading areas are located within the building to prevent dust emissions leaving the site during waste delivery and tipping. In addition, a high-efficiency dust suppression system consisting of an atomiser misting system is to be installed within the building and activated during waste unloading and handling operations where required. These systems will help to control airborne dust particles.

3.2.9 Waste delivery vehicles will be instructed to minimise dust generation during unloading by employing controlled discharge methods, minimising waste spillages and ensuring low drop heights.

3.2.10 All vehicles leaving site will be subject to inspection and where necessary mud and debris stuck to the vehicle will be removed manually on site prior to leaving site to prevent drag out onto the public highway. In the event that drag-out is observed, then a road sweeper will be deployed promptly to remove any debris or other deposits on internal site surfacing to prevent drag out onto the public highway, and external roads if required. .

3.3 Overview of Waste Handling, Dust, and Other Emission Controls

3.3.1 The site layout is shown in attached drawing ref. EC-22022-S02-211. All waste tipping, bulking, storage and loading operations will be undertaken within the building. Wastes will be stored within 3-sided concrete bays with 4m high walls.

3.3.2 The entire site surface (inside the building and in external areas) is constructed of concrete which is easy to clean and prevents dust and particulate generation on site. Good housekeeping of the site will include routine cleaning and maintenance to remove accumulated dust from surfaces within the waste unloading and storage areas. Sweeping, washing, and dust suppression measures will be implemented regularly to prevent dust buildup and re-suspension into the air on-site.

3.3.3 The proposed activity involves the bulking up and temporary storage of household, commercial and industrial wastes including Mixed Dry Recyclables (MDR),Municipal Solid Waste (MSW), road and gully sweepings and plant wastes from parks and gardens, in addition to others. These wastes will be bulked up within the concrete bays in the existing building prior to transferring off-site for recovery. The main waste types to be accepted are mostly bulky recyclables (MDR/MSW) and these are not typically very dusty and therefore the risk of dust emissions from the temporary storage and handling of these wastes is considered to be low.

3.3.4 Storage of wastes in stockpiles within the building will shelter the wastes from the effects of wind blow action across stockpiles and also of drying out of surfaces by the sun. Stockpiles will be kept a minimum of 1m below the top of the concrete bay walls.

3.3.5 When not in use, the roller shutter doors of the building will be closed to prevent wind entering the building and entraining dust or light fractions in the air.

3.3.6 Site management will monitor stockpile heights to ensure they are not exceeding the storage bay capacities. Double handling of wastes will be minimised to prevent dust.

3.3.7 If surfaces of waste stockpiles are very dry and at risk of causing a dust emission, the surfaces will be sprayed with clean water by trained site operatives to dampen the surface and prevent loose dust particles entraining into the air within the building. Care will be taken to not use excessive water and minimise surface water run-off from stockpiles.

3.3.8 The building will prevent dust emissions leaving site. However, as an overriding requirement, if winds which carry visible dust out of the building and off-site towards any sensitive site receptor are observed by site operatives, then the site operations giving rise to the dust in that part of the site will be modified, or suspended where necessary, until more suitable conditions pertain, or until effective dust control measures are implemented.

3.4 Mobile Plant and Equipment

3.4.1 The following equipment are to be used on site:

- CAT 950M loader
- 360 excavator

3.4.2 All plant and mobile equipment will undergo regular inspection, staff will be trained to identify and leaks or damage and report any faults to site management immediately so remedial actions can be scheduled. At the beginning of every plant operator's shift, the plant or vehicle will be inspected prior to workers starting their shift in order to carry out checks on plant and mobile equipment and to report any defects to site management.

3.4.3 Site operations will only be within site operational hours, as stipulated in the planning permission for the site. Site operations involving the use of mobile plant and other equipment for the movement and handling of waste will not be carried out outside of permitted operational hours.

3.4.4 All mobile plant and equipment are maintained in accordance with manufacturers specifications and are serviced at least annually or in accordance with recommended maintenance schedule for that plant or equipment, to ensure the smooth and effective running of the plant and to detect and fix any faults or defects which may increase noxious exhaust emissions.

3.4.5 Mobile plant and equipment are checked daily as part of daily site inspections. Replacement plant and equipment that is purchased/hired to continue site operations is selected to achieve the lowest emission standard possible, whilst still being operationally effective and finically viable.

3.4.6 An anti-idling policy is enforced on-site to ensure no mobile plant, equipment or site/visitor/delivery vehicles that have internal combustion engines are left running when stationary and/or not in active use.

3.4.7 Plant and machinery are selected to meet all legislation and statutory guidance on emissions and to minimise emissions from selected equipment.

4.0 DUST AND PARTICULATE MANAGEMENT

4.1 Responsibility for Implementation of this Plan

4.1.1 Is it the responsibility of the Site Manager and nominated deputy for ensuring the DEMP is distributed to site staff/contractual staff. This is achieved through Site Inductions, fresher (annual) Site Inductions and Toolbox Talks (or equivalent) which will be delivered by the Site Manager/nominated deputy.

4.1.2 It is the responsibility of the Site Manager to implement this Plan and ensure that dust control measures are being implemented across the site. It is also the responsibility of all site personnel to maintain a visual awareness of dust emissions during the working day as part of continual proactive environmental monitoring and to ensure dust control measures are implemented and any dust emissions identified are reported immediately to site management.

4.1.3 A copy of this DEMP should be kept in the Site Office and on the company computer (i.e. in the weighbridge cabin) at all times and is intended for use by site operatives and managers for the control of dust and particulate emissions at the site. This is a live document and should be reviewed regularly and at least annually, and updated if a number of dust complaints are made to the site or changes are made to site activities.

4.2 Staff Training

4.2.1 The Site Manager will be responsible for ensuring relevant staff receive proper and adequate training in respect of dust emissions management. Under the company management system, staff will receive the necessary training and instruction in their duties relating to all operations and the potential sources of dust emissions. Emphasis will also be given to plant and equipment malfunctions and abnormal conditions.

4.2.2 Relevant site staff will undergo training to ensure that they understand how their actions and the site operations can affect airborne emissions. The staff will be instructed to not operate unless the site controls are operational and alert site management at times when the site could potentially cause a dust nuisance. Staff will be trained to ensure that materials are sprayed with water during unloading and loading or when conditions require, such as when particularly dry, hot, or windy which may increase the potential for dust emissions. The staff will be trained to visually inspect for airborne dust emissions on-site and to check if emissions are leaving the site boundary. Staff will be instructed to report fugitive emissions to the Site Manager with immediate effect.

4.2.3 Staff training records will be maintained and kept updated with training in dust control measures and stored within the site office.

4.3 Sources of Fugitive Dusts and Other Emissions

On-Site Dust Sources

4.3.1 Fugitive dust could result in visible dust being observed crossing the site boundary, a human health risk to workers and human receptors beyond the site boundary and nuisance can be caused by dust deposition on surfaces at sensitive receptors.

4.3.2 Potential dust sources have been identified at the site from the operational activities to be carried out, these are detailed below:

- Delivery of wastes to site including in uncovered vehicles.
- Vehicle movements around site kicking up dust from site surface.
- Waste tipping, waste handling and moving waste into storage bays by 360 excavator and loading shovel mobile plant.
- Storage of waste stockpiles within building.
- Collection of wastes for transfer off-site.
- Accumulation of mud and debris on site surface.
- Loading waste materials back onto vehicles.
- Particulate emissions from the exhausts of mobile plant.

Off-Site Dust Sources

4.3.3 The site is predominantly surrounded by other industrial and commercial businesses and also the M57 to the east and M62 to the south, all which could be potential sources of dust.

4.3.4 The closest potential off-site dust sources are the adjacent industrial sites to the northwest, west and south of the Arpley 2 site which include an engineering company, two council depots, a Cemex site, a lorry/logistics company and a Veolia Depot. Further afield are Huyton Household Waste Recycling Centre (HWRC) which is an active waste operation outside. Depending on the activities of these businesses and whether their operations are within a building or outside, there is the potential for site operations and associated vehicle movements at these sites to give rise to dust emissions.

4.3.5 The local off-site potential contributors of dust and particulate matter emissions within 1km are listed below in Table 2 below and their approximate locations also shown in Figure 3 below: .

Table 2 – Potential Off-Site Sources of Dust

Ref.	Name	Type	Distance/Direction
1	Pine Precision Engineering	Commercial/Industrial	<10m NNE
2	Knowsley Council Depot	Commercial/Industrial	20m E
3	Knowsley MBC Depot	Commercial/Industrial	20m S
4	Cemex Site	Commercial/Industrial	20m E
5	John Mason International Ltd.	Commercial/Industrial	25m SW

Ref.	Name	Type	Distance/Direction
6	Veolia Depot	Commercial/Industrial	40m NW
7	Tarmac Huyton	Commercial/Industrial	70m NE
8	Commercial Units inc. Dulux Centre	Commercial/Industrial	85m NW
9	M57 motorway	Public Road	100m E
10	Huyton HWRC	Commercial/Industrial	130m SSW
11	Industrial Units on Fallows Way/Windy Arbor area	Commercial/Industrial	Between 170m and 500m to E
12	Liverpool to Manchester railway	Commercial/Industrial	690m N
13	M62 motorway	Public Road	705m SSE
14	Allotments	Recreational	900m NE, 920m N

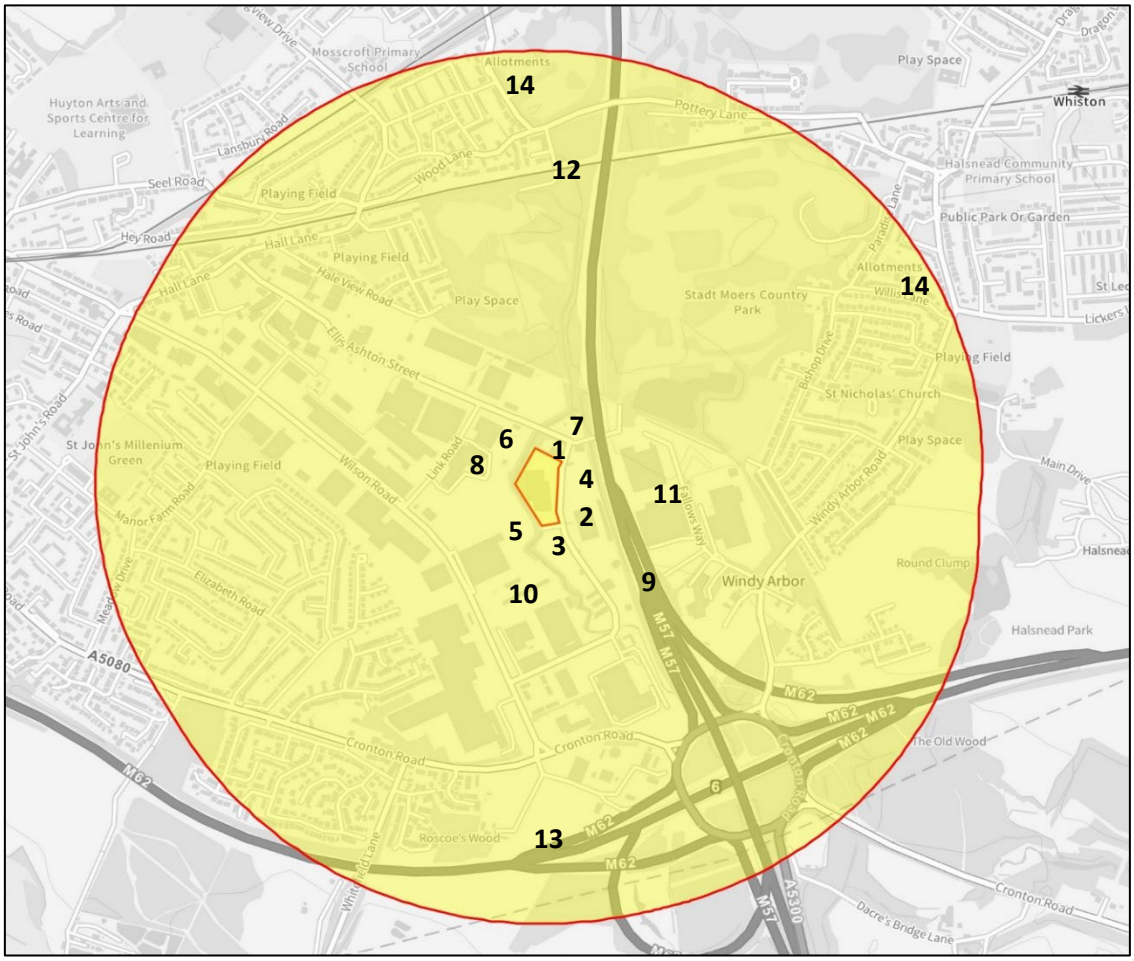


Figure 3 - Potential off-site dust sources within 1km radius (outer red circle) of the site boundary (inner red outline) (source of background map: DEFRA Magic Maps, 2024[3])

[3] https://magic.defra.gov.uk/MagicMap.aspx

4.4 Airborne Pathways

4.4.1 It is considered the potential pathway for dust and particulate emissions to reach sensitive receptors is via airborne transmission/atmospheric dispersion. Factors affecting airborne emissions include:

- Type of wastes.
- Quantity of wastes.
- Season i.e. hot, dry, summer conditions generate more dust.
- Wind direction, strength, and speed.
- Exposure of wastes to wind.
- Distance of sensitive receptor to site operations.

4.4.2 Meteorological data from Windes weather station (wind statistics from winderfinder.com website) indicates that the prevailing wind direction is from the east-southeast to the west-northwest, but with variations throughout the year. These wind conditions are considered to be reflective of those likely to be experienced at Arpley 2 Transfer Station.

4.4.3 With reference to Table 1 above, predominant annual wind conditions are likely to blow towards the industrial/commercial units to the west-northwest along Ellis Ashton Street and Wilson Road but could also blow towards the residential area to the west.

4.4.4 Given the control measures in place, the transient nature of airborne emissions, the indoor enclosure of the activities, and the distance of these receptors from site, it is unlikely the receptors will be significantly impacted by potential dust emissions from site. However strict control measures will be in place to keep airborne emissions under control from leaving the site and breaking pathways between sources and receptors.

4.5 Source-Pathway-Receptor Model

4.5.1 The linkages between the sources, pathways and receptors are outlined in Table 3 below:

Table 3 – Source–Pathway–Receptor Model

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Spilled wastes from delivery vehicle or mobile plant.	Tracking dust on wheels and vehicles around site and then mud or debris dropping off wheels/vehicles when dry.	Users of public roads nearby inc. visitors and workers of nearby businesses and residents of nearby homes.	Visual soiling, also consequent resuspension as airborne particulates.	Remove any waste debris or mud from vehicles before vehicles leave site. Not overloading vehicles with waste to avoid spillages and ensuring delivery and collection vehicles covered. Good housekeeping of concrete site surface including regular cleaning of any mud or debris accumulation to prevent tracking out onto public highway.
Tipping and storage of waste inside building.	Escape of dust from buildings and subsequent atmospheric dispersion.	Nearby commercial and industrial premises, residents and users of public roads.	Visual soiling and airborne particulates could affect human health or visibility on nearby roads.	Maximise containment, keep roller shutter doors closed except during active use for entry of vehicles. Drop heights of waste loads to be minimised to reduce dust. Water sprayer use on stockpiles and site surface for dust suppression if required.
Vehicle exhaust emissions.	Atmospheric dispersion.	Human health of nearby workers in adjacent business premises and residents of nearby homes.	Airborne particulates.	Selection of low-emission mobile plant where possible and an anti-idling policy to be enforced on site to reduce emissions.
Excessively dusty wastes.	Atmospheric dispersion.	Workers and residents of nearby businesses and homes.	Airborne particulates.	Strict waste acceptance procedures followed on site will ensure non-conforming wastes, including excessively dusty or wastes consisting solely of dusts are not accepted at the site. Waste loads to arrive at site covered. If required spraying the surface of waste loads with water can be undertaken at the weighbridge.

4.6 Control of Fugitive Dusts & Other Emissions - Summary

4.6.1 The following control measures will be implemented to minimise the impact of dust and particulate emissions from Arpley 2 Transfer Station. A number of aspects of the site infrastructure and procedures on site are designed to mitigate dust emissions, including:

- Waste delivery vehicles to arrive and leave site with covered/sheeted loads.
- Site surfacing made of smooth concrete limiting dust generation and allowing easy cleaning and maintenance.
- Strict waste acceptance procedures ensuring excessively dusty or non-conforming wastes are not accepted onto site.
- Unloading, handling and storing wastes within an enclosed building with roller shutter doors to shelter wastes from the weather (hot, dry, windy conditions) and minimise dust emissions (if any) leaving site.
- Drop heights minimised and careful handling during unloading of wastes from vehicles to reduce dust. Delivery drivers informed of requirements to minimise dust at all times.
- Atomising misting water sprayers system within building to control airborne dust within the building and dampen stockpiles. Use of uncontaminated water for dust suppression, to avoid re-circulating fine material.
- If excessively dusty load is deposited at the site, it will be either reloaded directly back into delivery vehicle, with misting systems activated within the building, or the load will be dampened down by misting system and load moved to a bay temporarily awaiting removal from site as soon as practicable.
- Good housekeeping of the site will include routine cleaning and maintenance to remove accumulated dust from surfaces within the waste unloading and storage areas. Sweeping, washing, and dust suppression measures will be implemented regularly to prevent dust buildup and re-suspension into the air on-site.
- A site speed limit will be adhered to by all vehicles and mobile plant to minimise kick-up of dust from site surfaces and an ‘Anti-Idling Policy’ will be enforced to reduce emissions from diesel- or petrol-fuelled vehicles.
- Waste stockpiles will be limited to 3m high within the concrete bays inside the building and this will be marked by a horizontal level line at 3m within each bay.

4.6.2 There will be no processing of wastes on-site as part of the waste transfer activity, with only minimal handling as part of the bulking-up of wastes within bays prior to transfer. This will ensure agitation of wastes and potential generation of dust is minimised.

4.7 Water Usage/Availability

Water for dust suppression within the atomiser misting system in the building will be sourced from clean, uncontaminated mains water. This will use minimal amounts/volumes of water due to the fine nozzle heads spraying out a mist and will only be used during unloading operations or in particularly dry or dusty conditions where dust is becoming observable by trained site staff within the building. All water will be contained by the site's sealed drainage system, with penstock valves installed for isolation of run-off if required. Run-off will be discharged to sewer via an existing connection. It is unlikely the site will require large volumes of water for dust suppression day-to-day and therefore during most weather conditions, including in the event of a drought, it is considered that the supply from mains water would suffice.

4.8 Enclosure of Waste Handling & Storage Areas

4.8.1 The waste transfer and bulking operations will be undertaken within a fully enclosed waste transfer station building on-site. No unloading, handling or storage of wastes will be undertaken outside. The site is not located within 1km of an Air Quality Management Area (AQMA).

4.8.2 Enclosure of the waste operation provides numerous benefits including:

- Keeping waste dry and so maintaining a high calorific value of any wastes destined for energy from waste facilities.
- Clean rainwater can be harvested from the roof, providing another source of water for dust suppression.
- Waste operations are protected from wind whip and drying of stockpiles.
- Buildings can also help control odour and noise.
- Enclosing waste operations in a building is considered a Best Available Technique (BAT) by the Environment Agency.

4.8.3 The only activities undertaken outside on-site will be the arrival and weighing of waste delivery vehicles at the weighbridge, and brief visual checks of waste loads prior to the vehicle driving round to the building entrance and being admitted via the roller shutter doors. The doors are closed as soon as possible after entry of the vehicle.

5.0 VISUAL DUST MONITORING AND RECORDING

5.1 Visual Dust Monitoring

5.1.1 Site Management will make daily visual dust monitoring across the site to ensure that a pro-active approach is being undertaken and that dust emissions are not affecting local neighbours and nearby sensitive receptors. In the absence of the Site Manager, their nominated deputy or TCM will carry out daily visual monitoring. These staff will be fully trained in visually monitoring dust at the site.

5.1.2 It is the responsibility of all site personnel to maintain a visual awareness of dust emissions during the working day. Any significant dust emission occurring with the potential to travel beyond the site boundary will be reported to site management, who will be responsible for investigating the cause and taking immediate action to minimise further emissions. If necessary, site operations will be halted until appropriate remedial action(s) is completed.

5.1.3 There are no fixed dust monitoring points proposed. Dust monitoring is observed with particular emphasis made around operational and storage areas within the building and in external area paying particular attention to the site perimeter that is downwind. Visual dust monitoring will include observing the movement of vehicles, stockpiling and the movement/transfer of materials, to establish if such operations are giving rise to dust emissions and the size and frequency of these releases.

5.2 Schedule

5.2.1 Monitoring at the site will consist of the following in Table 4 below:

Table 4 - Monitoring Schedule

Parameter	Monitoring Technique	Frequency
Meteorological Monitoring	Using weather station app or website.	Manually checked at start of each working day and recorded.
Visual Dust Monitoring	On-site and at site perimeter. In the event dust emissions are detected on-site/at boundary, or a dust complaint is received, then off-site checks will be undertaken (towards the identified sensitive receptors).	**Daily –** on-site visual dust monitoring as part of daily site inspections. (More frequently during day following dust complaints or during prolonged dry or windy conditions).

	If numerous complaints received, operations at site stopped until source can be found by more frequent monitoring and remedial actions taken.	
Complaints Monitoring	Logged in accordance with Complaints Procedure.	Ad-Hoc.

5.3 Particulate Monitoring

5.3.1 The site is not within an Air Quality Management Area (AQMA) and therefore additional continuous particulate matter monitoring is not required at site. An 'Anti-Idling Policy' will be enforced at the site to ensure engine emission are reduced from vehicles attending site and mobile plant.

5.4 Meteorological Monitoring

5.4.1 In the event of dust complaints, the data enables complaints to be assessed against the meteorological conditions for the relevant period. Meteorological information will be recorded as part of daily site inspections into FCC's online database.

Weather conditions

1.1.1 Adverse weather conditions are measured via routine inspections and will form part of the daily site inspection, with use of local weather data from online MET Office or other website to provide meteorological readings for that day. Checking weather forecasts will enable site management to be aware of any potentially adverse weather conditions that may affect operations that day and to prepare appropriately.

1.1.2 'Adverse weather conditions' can be defined as conditions which significantly increase the risk of fugitive visible dust emissions to leaving the site boundary and causing an impact on nearby sensitive receptors.

1.1.3 Adverse weather may include increases in wind speed or intensity, changes in wind direction towards sensitive receptors, periods of hot or, dry weather, and any other unpredictable weather condition/event such as extreme blustery wind/stormy weather etc which may cause dust emissions from site operations to occur.

1.1.4 It is unlikely that operations will be significantly affected by weather due to all operations, including storing of wastes, to be undertaken within a building, which will provide shelter from rain, wind, heat, cold and other extremes. The only time weather conditions may impact upon site operations are if weather affects deliveries and collections to and from site e.g. extreme

weather causing driving conditions to be bad; or where the site is flooded, however this is very unlikely.

1.1.5 Any operations that are halted due to adverse weather conditions will only resume when the weather conditions are deemed suitable. Suitable conditions will be determined by the Site Management and will comprise conditions where dust emissions and particulates are not carried by the wind from the source to cause significant visible dust emissions that have the potential to leave the site boundary into the surrounding area and impact upon sensitive receptors.

1.1.6 Any 'high winds' that could impact on wind whip on stockpiles are defined whereby 'light materials are blown/wind-whipped off stockpiles and also during loading/unloading process where dust and airborne emissions are blown off site'. Again this scenario is very unlikely due to stockpiles of waste being stored within the building with the roller shutter doors closed when not in use. When a visual assessment of materials blown around site is made and/or during loading and unloading emissions are seen to blow out the building and beyond the site boundary, dust control measures or the cessation of activities will be actioned.

5.5 Complaints Monitoring

5.5.1 Any complaints received directly by the Site or via the Regulatory Bodies, including the EA will be recorded on the FCC EcoOnline database. Investigation will then be undertaken via dust monitoring at the location of the complaint and on-site to substantiate the extent and location of the dust emission and to identify the source of the dust.

5.5.2 If necessary, dust monitoring will also be carried out at the nearest sensitive receptors to the site and the monitoring results recorded.

6.0 DUST ACTION PLAN

6.1.1 In the event that an unacceptable dust impact is caused at a nearby sensitive receptor, and a justified complaint is received by the site management, the following actions will be undertaken, including:

- Additional visual monitoring to identify the extent of the impact and potential cause and source;
- Examination of the operational activities at site at the time of the complaint or identification of an impact;
- Examination of the meteorological conditions at the time of the complaint or identification of an impact;
- Carry out a review of the operational procedure and controls and instigate any control measures immediately following identification of the problem;
- Further monitoring will be carried out to ensure the issue has been addressed and to monitor the effectiveness of any control measures undertaken.

6.1.2 It is the responsibility of all site personnel to maintain a visual awareness of dust emissions during the working day as part of continual proactive environmental monitoring. Any significant dust emissions occurring with the potential to travel beyond the site boundary will be reported to the Site Manager/Supervisor who will be responsible for investigating the cause and taking immediate action to minimise further emissions.

6.1.3 In the event that dust emissions are observed to be crossing the site boundary or surfaces (such as trees/vegetation and cars) are becoming soiled, then site management will be informed immediately and the approximate location and extent of the dust, or deposition, assessed and site operations reviewed and remediated.

6.1.4 The rate of dust suppression will be adjusted to suit the conditions observed, ensuring water coverage is sufficient to prevent fugitive emissions to air. In extreme circumstances, if there is evidence of significant amounts of dust, all site activities will be suspended until the affected area has been dampened with sufficient water preventing emissions to air.

6.1.5 If airborne emissions are the result of equipment failure, faulty items of plant will be repaired/replaced as required. As part of plant maintenance, records will be made of repairs or replacement parts.

6.1.6 Although unlikely due to the operations being sheltered within the building, any operations that were halted due to adverse wind conditions will only resume when the wind conditions are deemed suitable. Suitable conditions will be determined by the Site Management and will comprise conditions where dust emissions and particulates are not carried by the wind from the source to cause significant visible dust emissions that have the potential to leave the site

boundary into the surrounding area and affect nearby receptors. Site operatives will ensure the roller shutter doors are fully closed before resuming operations if required.

6.1.7 If unacceptable airborne emissions have been observed, appropriate remediation measures will be put in place with immediate effect. The frequency of inspections will only be reduced once the issue has been fully resolved.

6.1.8 A record must be made of any dust emission incidents and actions taken. A review of the operational procedures and control measures will be initiated.

6.1.9 Waste storage and handling procedures should be reviewed, and additional controls imposed as deemed necessary by the Site Manager, with the DEMP updated as required.

7.0 REPORTING AND COMPLAINTS RESPONSE

7.1 Complaints Procedure

7.1.1 As part of this Dust & Emissions Management Plan (DEMP), engagement with the neighbours will be undertaken. Prevention of dust emissions is viewed as the most effective means of controlling dust before an impact or complaint occurs.

7.1.2 Any complaints received at the site are likely to be direct to the Operator, who is willing to deal directly with the complainants, however complaints could also be received through the Environment Agency or Local Authority. Where necessary the following can be implemented:

- Information can be provided to the local neighbours (via the Environment Agency) regarding the point and method of contact for the Facility in the event that fugitive dust has been detected or they want to discuss any activities at the site.
- Complainants can be advised that any complaints/concerns will be addressed immediately following identification/notification and contingency action implemented.
- Complainants can be advised of any corrective action and a follow up call carried out if required.

7.1.3 The primary point of contact at the site for complaints and liaison with the neighbours is the Site Manager, who will ensure that the recording, investigation and close-out of any complaints is undertaken as described as below and in accordance with company management procedures.

7.1.4 In the event of an dust complaint being received by the Local Authority or the Environment Agency (EA), the complaint is passed to the Operator for the investigation, and a response to the complaint is provided typically within 48 hours.

7.1.5 Every complaint is recorded in FCC's EcoOnline database system, as detailed below:

- All complaints are recorded by the site manager or site staff, describing the complaint and severity.
- The complaint is forwarded to the Regional Environment Manager to undertake further investigation.
- Depending on the severity, the complaint can be escalated to senior management for investigation if necessary.
- The system is a digital process and records a wide range of reporting.

7.1.6 The FCC EcoOnline database is already in place as part of the company's accredited environmental management system and includes reporting to the EA of the findings of the dust investigation. The following details will be recorded for a complaint received at the site:

- Date and time of complaint;
- Extent of complaint;
- Meteorological conditions at time of complaint;
- The complainant's contact details including name and contact telephone;
- Name of person filling out form;
- Actions taken to resolve complaint or investigate complaint further.

7.2 Record Keeping and Reporting

7.2.1 The Dust Management Plan will be stored as hardcopy within the Site Office and on the company computer system.

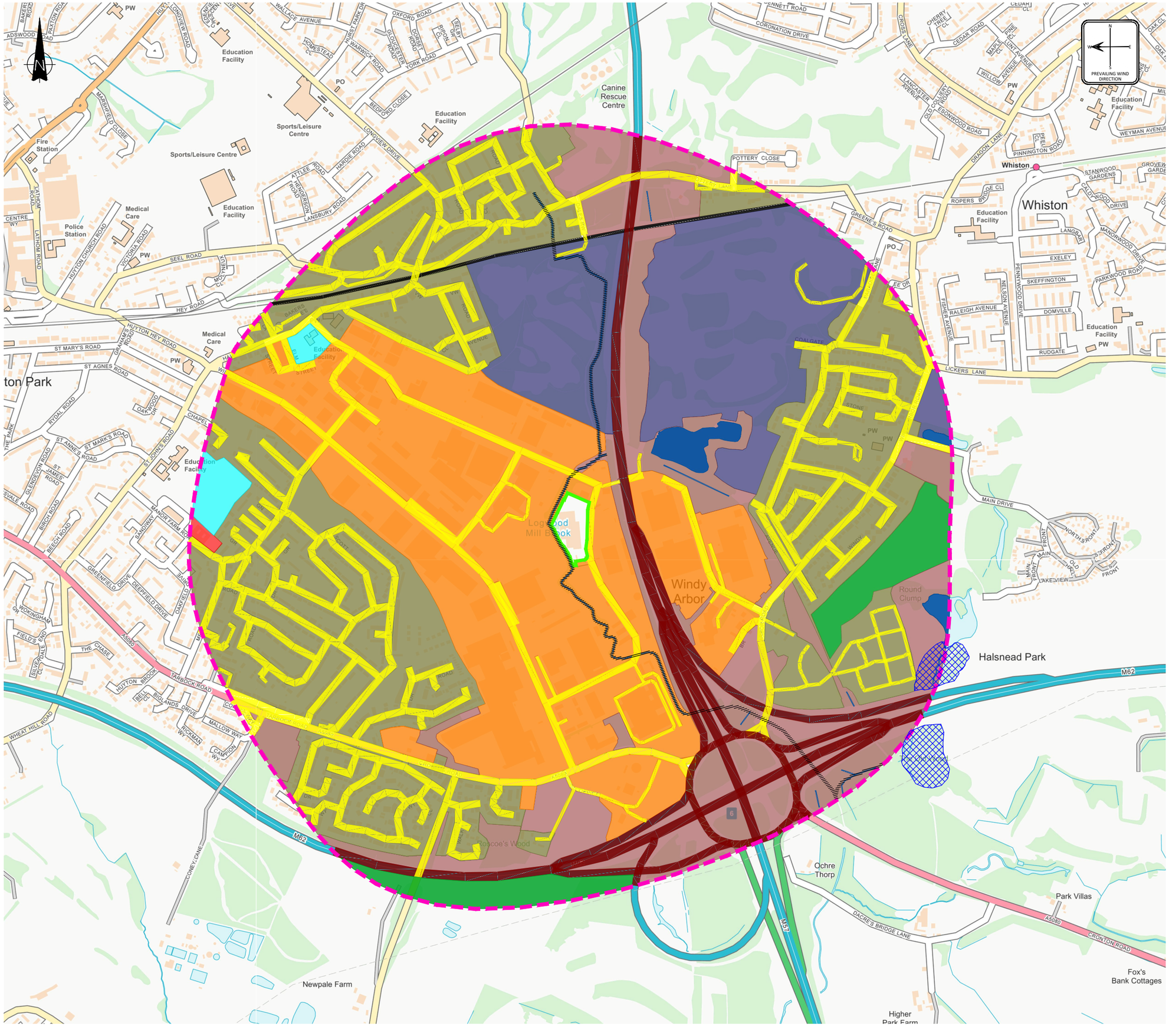
7.2.2 The procedure for recording via the FCC EcoOnline database will be undertaken as detailed above. All information is recorded digitally and maintained within a digital database. All information can be accessed via computer within the Site Office and will be made available to the Environment Agency on request. This record keeping already forms part of the Site's Management System.

7.3 Dust and Emissions Management Plan (DEMP) Review

7.3.1 This Dust & Emissions Management Plan (DEMP) will be reviewed on a regular basis, if there are relevant changes in the site operations or procedures, or following receipt of a significant and substantiated complaint that requires a change in management procedures for the site.

DRAWINGS

6109-CAU-XX-XX-RP-V-1800	Sensitive Receptor Plan
EC-22022-S01-211	Proposed Operations Plan



LEGEND

- PERMIT BOUNDARY
- 1000m OFFSET
- SURFACE WATER
- WOODLAND / SCRUBLAND
- RECREATIONAL
- EDUCATIONAL FACILITY
- COMMERCIAL / INDUSTRIAL
- RESIDENTIAL
- MEDICAL FACILITY
- AGRICULTURAL
- MAJOR ROAD
- MINOR ROAD
- RAIL
- EUROPEAN EEL MIGRATORY ROUTE
- ANCIENT WOODLAND

P02	WIND ROSE ADDED	EJD	SH	SH	16.04.24
P01	ISSUED FOR INFORMATION	EJD	SH	SH	21.02.24
REV	MODIFICATIONS	BY	RE	AP	DATE

PURPOSE OF ISSUE: FOR INFORMATION

STATUS: S2

CLIENT: FCC Environment

PROJECT: ARPLEY 2 TRANSFER STATION

TITLE: SENSITIVE RECEPTOR PLAN

DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY
EJD	EJD	SH	SH

DATE	SCALE @ A3	JOB REF:	REVISION
20.02.2024	1:10000	6109	P02

DRAWING NUMBER: 6109-CAU-XX-XX-DR-V-1800

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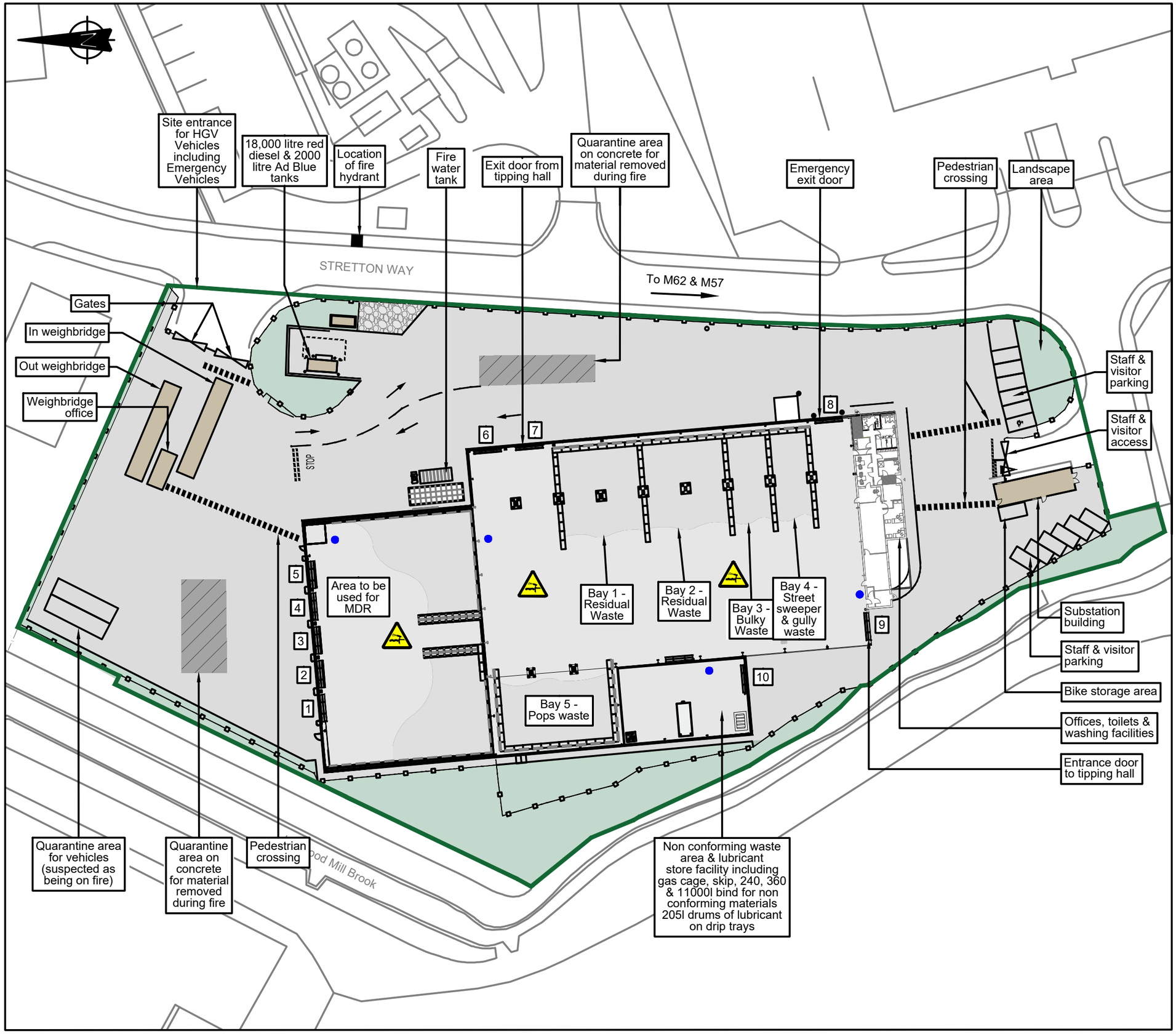

Notes:

1. All dimensions in metres and all levels in metres above ordnance datum unless specified otherwise.
2. Do not scale from this drawing.
3. Any anomalies identified with the details shown on this drawing are to be brought to the attention of FCC environment (UK) limited prior to construction works commencing.

Legend:

- Environmental Permit Boundary
- Fence
- Concrete Hardstanding
- Landscape Area
- Rough Ground
- Spill Kit
- Water Cannon

Bays 1 & 2 - Residual waste from household, trade, CRC, street cleansing & ground maintanence wastes (wastes destined for thermal treatment)

Bay 3 - Bulky Wastes and Bulky waste extracted from Bays 1 and 2 (Wastes destined for shredding & Thermal treatment)

Bay 4 - Gully Arisings and Mechanical Sweeping wastes destined for Mechanical & biological treatment

Bay 5 - Bulky Pops and CRC Pops Waste (Wastes destined for shredding & Thermal treatment)

Revision:	Date:	Description:	By:	Chk:
S03	09.05.2024	Fuel tank & quarantine areas added, additional annotation	MT	AO
S02	13.02.2024	Food waste bay removed & annotations updated	MT	AO
S01	18.12.2023	First Issue	MT	JH

FCC Environment

FCC Environment (UK) Limited
3 Sidings Court, White Rose Way, Doncaster. DN4 5NU

Site:

Arpley 2 Transfer Station Development

Drawing Title:

Proposed Permit Application Layout

Drawn By:	Checked By:	Date:	Scale:	Paper Size:
MT	AO	09 May 2024	NTS	A3
Status:	Project No:		Revision:	Plan Number:
Level 1	**EC-22022**		S03	**071**

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