BAT ASSESSMENT

101 Amington Road, Birmingham, B25 8EP

Kiely Bros. Ltd

Version:	1.3	**Date:**	03 May 2024		
Doc. Ref:	AMI-918-J	**Author(s):**	CP	**Checked:**	KBL
Client No:	918	**Job No:**	012		

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Document History:

Version	Issue date	Author	Checked	Description
1.0	13/02/2023	CP	KBL	Initial draft
1.1	13/03/2023	CP	KBL	Document issue
1.2	14/03/2024	CP	KBL	Added section 1.5, update site plan in Appendix I
1.3	03/05/2024	CP	KBL	Updated to sections 1.1, 3.4 – 3.6 and site plan in Appendix I.

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1 Introduction

1.1 Overview of site operations

1.1.1 This document summarises the best available techniques (BAT) specific to Kiely Bros. Ltd (the operator) site situated at 101 Amington Road, Birmingham, B25 8EP which will be operated as a Section 5.4 (a)(iii) and (b)(ii) non-hazardous waste installation comprising the pre-treatment of non-hazardous refuse derived fuel (RDF) into a solid recovery fuel (SRF) for incineration off site.

1.1.2 The site has a current EP which allows for the acceptance, storage and treatment of mixed household, industrial and commercial (HIC) waste under an A11 activity, this activity is discussed in Section 3.6 of this EMS.

1.1.3 The EP also allows for acceptance, storage and treatment of construction, demolition and excavation (CDE) waste under an A16 activity but as this activity is not taking place at the site and will be relinquished from the EP.

1.2 General

1.2.1 Kiely Bros. Ltd were issued an Environmental Permit (EP) by the Environment Agency (EA) at the site on 17/11/2017 and as the site is looking to treat more 75 tonnes of waste per day for a mix of recovery and disposal, the site will form part of the Industrial Emissions Directive (IED) Regulations which leads the requirement for this BAT assessment.

1.3 Summary of site operations

1.3.1 In addition to this document the site will be operated by Kiely Bros. Ltd in accordance with a number of additional management plans which should be read in conjunction with document. The list of management plans are shown below:

- Environmental Management System (EMS)

- Fire Prevention Plan (FPP)
- Noise & Vibration Management Plan (NMVP)
- Dust Management Plan (DMP)
- Odour Management Plan (OMP)

1.3.2 The main operations which take place at the site are as follows:

- Compacting (by loading shovel / 360° excavator and baling equipment)
- Sorting (with loading shovel / 360° excavator or by hand)
- Screening (by using appropriate mechanical screening plant and equipment)
- Separation (by using appropriate mechanical separation plant and equipment)
- Shredding (by using appropriate mechanical shredding plant and equipment)

1.3.3 The above activities are clearly shown on the Site Layout & Fire Plan which is referenced as Drawing No. AMI/918/03 and shown in Appendix I.

1.4 BAT techniques

1.4.1 The following best available techniques BATs have been considered to show how the site addresses the aspects detailed in the aforementioned guidance to include and therefore to ensure protection of the environment and surrounding receptors:

- Pre-acceptance of waste procedures
- Acceptance waste procedures
- Waste storage
- Staff training
- Monitoring procedures
- Accidents and incidents

1.4.2 The primary purpose of this document is to ensure that all waste received is handled and treated in the most environmentally friendly and economical way to reduce fugitive emissions which could cause harm to the environment and human health.

1.5 Guidance

1.5.1 This BAT assessment has been written to demonstrate compliance with Best Available Techniques (BAT) conclusions for Waste Treatment (WTBATc) and the Non-hazardous and inert waste: appropriate measures for permitted facilities and to demonstrate that it meets the required standards. A process flow diagram (Drawing No. AMI/918/05) is shown in Appendix IV of this assessment which clearly defines which treatment activities relate to each other. The diagram and accompanying site site layout and fire plan (Drawing No. AMI/918/03) details how the waste operations and installation activities are clearly defined including their directly associated activities (DAA) to the 5.4 (A)(1)(b)(ii) in line with RGN2.

1.5.2 The final destination for the SRF is at the following location comprising a cement kilns:

Table 1.1 – List of Combustion Plants

Permit/Installation Holder	Permit No.	Address
Tarmac Cement & Lime Limited	EPR/XP3532DP	Tunstead Cement and Lime Works, Tunstead Cement and Lime Works, Wormhill, Buxton, Derbyshire, SK17 8TG

1.5.3 The operator's focus for this material stream is UK cement manufacture so new outlets would also be searched and fall into this category.

1.5.4 The above destination sites demonstrate the activity is to be classified as recovery so the combustion facility can demonstrate that it meets the R1 Energy Recovery formula. The document will demonstrate the operation is not considered pre-treatment for a disposal operation.

2 Pre acceptance of waste

2.1 Procedures for the pre-acceptance of waste

2.1.1 All waste proposed to be accepted will comprise only of the operator's residual waste from their other two permitted sites; Speedwell Road - EPR/ NP3092FC/V003 and Cherrywood Road - EPR/HB3805FE. In the event third party tips of 19 12 12 are required, the EA will be informed of the nature of the material and proposed mitigation procedures. It is important to note that this reduces the likelihood of any non-conforming material being accepted at the site given the waste will have been subject to previous acceptance/inspection procedures.

2.1.2 Pre acceptance procedures at the above site's where the waste originates from consist of the site management (technically competent manager, site manager, operations manager, site foreman) or other suitably qualified person checking the pre-acceptance data list below and checks wastes for their suitability prior to their acceptance onto site. This could even involve overseeing operations at the site of production which will include:

- Nature of the process producing the waste, including the expected quantity and variability of the waste.
- The composition of the waste – representative sample(s) of the waste are taken and checked for suitability.
- For each new waste enquiry, a comprehensive characterisation of the waste is carried out (including all hazardous properties, physical appearance, odour risk)
- Checking there is sufficient and suitable storage available on the site.

2.1.3 It is considered these checks will be suitable to determine all waste arriving at this site will comprise non-hazardous RDF waste material under EWC code 19 12 12.

3 Waste acceptance procedures

3.1 Preliminary procedures

3.1.1 Guidance will be given by the site management to all employees, sub-contractors, other waste carriers and customers regarding the waste types and operations which are acceptable at the site i.e. a copy of Appendix III of this document. The site will be used for the waste collection by Kiely Bros. Ltd's own skip hire operations and for waste from third-party users, whose details will be checked prior to delivery of waste to the site. The procedures below are followed prior to the receipt of waste on site.

3.1.2 For in-house collections, the driver employed by the permit holder will arrive at the waste producer's premises he/she will inspect the load for conformity with relevant regulations and safety procedures.

a) If the load is satisfactory the driver will sign the relevant paperwork (Duty of Care transfer note/delivery ticket) and remove the load from the premises.
b) If the waste does not meet the description stated on the controlled waste transfer note the customer is advised to check the note and give a more detailed description of the waste.
c) If the more detailed description of the waste reveals that the waste is not permitted at the recycling centre then the customer is advised that the waste must be taken to another site which is appropriately permitted to accept the waste(s).
d) If further instructions are needed the driver may also report back to the site manager.
e) Where it is suspected that the details given on the transfer note are incorrect the EA may be contacted for advice.
f) Where the load contains soil from an industrial site the EA may be contacted for advice to ensure that the load to be removed does not contain contaminated soil.

3.2 Checking in & inspection of loads

3.2.1 All incoming vehicles are required to report to the site office. The details of the load will be recorded and the Duty of Care transfer note and company documentation will be further checked by the operator to ensure that the load is acceptable at the site. Any deviation from these procedures or problems with any loads will be reported to the site manager.

3.2.2 Once a load has been accepted by the operator, the driver will be asked to unsheet the vehicle (if it is sheeted) and a visual inspection of the contents will be carried out to ensure that the waste types comply with the EP. If non-compliant waste is discovered before deposit, the load will not be accepted, the driver will be informed to leave the site and dispose of the material at alternative facility. In cases where the presence of unauthorised or unusual waste is discovered during initial inspection, the EA will be contacted immediately to agree a course of action.

3.2.3 The nature of bulk loads makes full inspection difficult until the load is deposited. If the load is acceptable the driver will be instructed to deposit it within the waste reception bay as shown on Drawing No. AMI/918/03. If the load is unacceptable following deposit, it will be reloaded and removed from the site or quarantined and removed within a timescale agreed with the EA.

3.3 Waste acceptance procedure (general)

3.3.1 All incoming vehicles upon arrival are required to report to the person in charge of waste acceptance at the site. The details of the load will be recorded and the duty of care note/company documentation will be further checked by the operator to ensure that the load is acceptable at the site, including a visual check prior to the vehicle proceeding to the tipping area. Any deviation from the procedures or problems with any loads will result in tipping facilities being suspended for the offending company. Loads which are not acceptable within the above terms will be rejected.

3.4 Waste acceptance / POPs assessment

3.4.1 Staff will be trained in the identification of any waste which could contain POPs which will include the following:

- sofas
- sofa beds
- armchairs
- kitchen and dining room chairs
- stools and foot stools
- home office chairs
- futons
- bean bags, floor and sofa cushions

3.4.2 If any of the above wastes are identified in the waste tipping and sorting area and contain leather, synthetic leather, other fabric, or foam, the items will be segregated and stored in AREA 4.

3.4.3 If there is a risk of contamination from the identified POPs waste i.e. if pieces of foam, cover, lining or wadding material are released from the item the whole load will be classified as POPs waste and stored in a segregate bay on site.

3.4.4 The site has an agreement with the destination site that POPs can be blended with SRF where it is suitable for incineration. This is discussed in Section 3.9. This process has been agreed with EA during email correspondence dated 24/01/2023 and also provided to the Local Area Officer/Technical Specialist.

3.5 Waste deposit, treatment and storage (A11 activity)

3.5.1 The site will primarily be used as the Section 5.4 activity but in the event of breakdowns on the operator's other sites, the site may need an overflow to avoid over stockpiling. In summary, skips of waste arising from householders or businesses on behalf of householders will be tipped into AREA 3 where the wastes will be crudely sorted by

hand or using mechanical grabs. Recyclable wastes will then be stored in adjacent skips. The skips would then be transferred back to the operator's other site and tipped prior to removal off site. The wastes which would be tipped would comprise mixed sources and only 17 09 04 and 20 03 01. There is a further overflow bay (AREA 9) which can also store this material in the event AREA 3 is at capacity.

3.6 Waste deposit, treatment and storage (S5.4)

3.6.1 The operator will ensure that all delivery loads of 19 12 12 are clearly defined on waste transfer notes which will include a full description of the material i.e. residual / non-recyclable waste

3.6.2 It is proposed the operator will not accept any third-party tips of 19 12 12 material and will comprise only of the operator's waste from their other two permitted sites; Speedwell Road - EPR/ NP3092FC/V003 and Cherrywood Road - EPR/HB3805FE. In the event third party tips of 19 12 12 are required, the EA will be informed of the nature of the material and proposed mitigation procedures.

3.6.3 All staff will be trained to identify the different types of 19 12 12 material which could be accepted at the site.

SRF PRODUCTION PROCEDURE

3.6.4 The waste imported to the site for this process will be tipped into the reception area for residual waste (**AREA 1)** which is in a covered area comprising an annex to the building. This material will then be subject to the following procedures:

i) An initial visual inspection will take place by trained staff to remove any wastes not suitable for the production of SRF. This waste would be moved by hand or grabs to AREAS 3 or 4.
ii) Once the waste in **AREA 1** has passed inspection, the material in **AREA 1** will be loaded into a hopper using a 360^0 grab, the hopper feeds an incline conveyor.

iii) The conveyor then deposits the waste directly into the jaws of the first shredder which produces a 150mm shred material which is discharged into **AREA 2** via the shredder output conveyor.

iv) The waste in **AREA 2** will then be loaded into two further shredders via a 360^0 excavator which will reduce the material to <40mm in size.

v) The <40mm material is then directly fed into an eddy current separator which will remove any metal and other heavy fractions which will discharge the material into skips (**AREAS A - B**). These skips will be monitored daily and removed to a suitably permitted site when full.

vi) The eddy current separator then discharges the lighter <40mm shred material into a blower which discharges the now SRF waste into an adjacent bay (**AREA 10**).

vii) The waste from **AREA 10** is then transferred to holding bays (**AREAS 5 – 9**) where it is dried ready to be loaded into a bulker and taken off site for incineration.

viii) As mentioned in Section 3.5, the site may blend POPs waste with the above areas. The shredding of POPs would take place during a weekend period when no HCI waste is accepted to ensure it is a completely separate process and to prevent contamination of other wastes.

3.7 Waste handling – non conforming wastes

3.7.1 A visual inspection of the waste is carried out by a suitably trained operative either within the site entrance area or within the site deposit area and the accompanying paperwork (if any) is checked. If unauthorised waste is discovered after receipt and deposit, the following courses of action will take place:

i) Return the waste to the producer and advise the EA of the deposit; or,

ii) Where the producer/owner of the waste has left the site and cannot be contacted or where the removal off-site of the waste may cause further problems then the waste will be deposited in the quarantine area or quarantine bay / skip on site. The EA will then be contacted to agree a course of action if the waste is difficult to handle or special.

4 Drainage

4.1.1 The areas which store waste are either inside the transfer building or on an impermeably concrete surfaced yard. All surface water from the yard is engineered to fall gully's or the ACO drainage channel which connects to the mains sewer system on Amington Road via a Condor CNS80s/11 Class 1 full retention interceptor. The interceptor is fitted with an alarm and penstock valve which can be shut off in the event of an incident or extreme rainfall event. Details of the above are shown on Drawing No. AMI/918/03.

4.1.2 It is proposed that as the site surface and roof water which connects to the mains sewer system may be contaminated due to the storage waste material, this will result in a point source emission to water and Drawing No. AMI/918/03 shows the emission point reference and location. Parameters, limits and monitoring of the water within this manhole will be agreed with the EA.

4.1.3 Visual inspections of drainage channels will be undertaken daily by trained operational with any noticeable blockages cleared and reported to the TCM or site manager. The interceptor will be monitored at least annually (or sooner if the alarm sounds) to ensure it is emptied and is in good working order.

5 Training for Site Staff

5.1 Training needs assessment

5.1.1 All new and existing site staff are subject to a specific training regime based on their responsibilities at the site to ensure all operations are carried out without harm to the environment or amenity of the surrounding area. Training in all aspects of the site and waste operations at the site with regard to the individual responsibilities of the site staff will help to prevent incidents occurring which may have an adverse impact on the environment and/or the employees and their co-workers.

5.2 Emergency procedures training

5.2.1 In addition to normal operating conditions as specified in the site rules, employees must also be trained in dealing with eventualities which may occur outside the scope of normal operating conditions, so they are aware of how to deal with these situations in advance of an occurrence.

5.3 Recognition of waste types training

5.3.1 All employees will be given induction training and subsequent training to identify waste types which are permitted for acceptance at the site under the site's EP and those wastes which are not. This will include specific training to identify those common wastes which may be found following deposit and are not permitted at the site and will also include more obscure wastes and how to handle these wastes safely. All employees will be advised that they will refer any unrecognisable or unknown wastes to senior management, who will, in turn, follow procedures outlined in the EMS and/or contact the EA to agree a suitable method for removal.

5.3.2 This training will be provided to all site users who handle waste on site and those in charge of administration and reporting. In-depth training will also be provided to drivers responsible for collecting wastes from the site of production. They will be

trained to identify any wastes not covered by the EP for the site and inform the producer that an alternative facility must be sought for any non-compliant wastes.

5.4 Plant and equipment preventative maintenance training

5.4.1 This training is provided specifically for the vehicle and plant operators in order to ensure that all plant and machinery is checked regularly to prevent any occurrences which may lead to any adverse impacts on the environment or human

5.4.2 The same training will be provided to senior management enabling a dual-level maintenance programme.

5.5 Duty of care training

5.5.1 All employees dealing with consignments of waste will be trained in the completion of Duty of Care Waste Transfer Notes and HWCN and the appropriate auditing of destination sites and/or contractors to ensure compliance.

5.6 Plant operation training

5.6.1 Any employees who are required to operate loading or treatment plant for the movement or processing of waste will be required to undertake the necessary qualifications for the operation of the specific item of plant in question. This will be required prior to operating the plant and will be obtained through necessary external certification programmes.

5.6.2 Regardless of general plant operation certification, all operatives will be fully inducted in the operation of the specific make and/or model of plant used on site.

5.7 Permit / EMS training

5.7.1 All employees will be inducted into the operating conditions as prescribed in the EP for the site. Whilst much of the above training will provide specific guidance on many aspects of these documents, all employees will be made aware of the location of the

EP in the site office. All managerial positions will be made fully aware of the site=s operating conditions.

6 Monitoring

6.1 General Management

6.1.1 The company have detailed written procedures and recording systems covering all aspects of site and company operations and accredited to ISO4001.

6.2 Plant & Equipment / Preventative maintenance

6.2.1 Site management will undertake or delegate additional preventative maintenance checks on a daily basis to ensure, where possible, the machinery is mechanically sound, as described in the section below.

6.2.2 Fuels and combustible liquids from site vehicles (forklift trucks etc.) will be controlled by ensuring each vehicle has undergone the relevant preventative maintenance checks.

6.2.3 Any spillages of fuel will be cleared immediately by depositing sand or absorbents on the affected area and removed to the quarantine area or to a dedicated skip to await removal to a suitably permitted facility.

6.2.4 All items of plant and equipment (and any additional items of plant which may be hired in to cover busier periods) are subject to preventative maintenance checks to ensure their safe operation and to prevent any potential situations which may give rise to faults or malfunction. A preventative maintenance and fire checklist are shown in Appendix II of the operator's FPP.

6.2.5 Much of the plant and equipment on site and all vehicles in the fleet are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts. Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure i.e. daily, before, during and at the end of each working day to ensure (where possible) the machinery is mechanically sound. These checks will be carried out using the preventative

maintenance checklist shown in Appendix II of the FPP and any results which are flagged as needing attention will also be recorded in the site diary.

6.3 Accidents and Incidents

6.3.1 The system for the identification of potential accidents, incidents and emergency situations is through risk assessments which are routinely undertaken in accordance with the operator's health and safety policy.

6.3.2 In order to prevent or reduce fame and audible events, potential accidents, incidents and emergency situations at the site, BAT is using the techniques given below:

- At introduction of new contract/working practices, procedures are established to deal with potential accidents/incidents from specific hazards, identified from experience.
- Risks are assessed on an ongoing basis and as work proceeds.
- Kiely Bros. Ltd uses its expertise to provide method statements that include recognised emergency procedures which are then briefed to all site staff and any subcontractors.
- If an accident, incident or near-miss occurs, the accident reporting procedure is used to investigate and remedy the cause. Any accident or incident that falls into the RIDDOR category shall be reported accordingly and submitted to HSE within 10 days of the occurrence.
- Site management meet regularly to review the causes of any accident/ incident and corrective and preventative actions implemented to address them. This may lead to changes in working practices, training and staff information briefings to ensure that the root cause is understood and addressed.
- Investigations are undertaken by company Management.
- Meeting the requirements of S5.06 Section 2.8.

6.3.3 The manner in which the facility is managed is a critical element in ensuring emissions from the site operations are minimised. Therefore, the management of the facility ensures:

- Staff are competent to manage and operate the facility i.e. fit and proper persons
- Strict waste pre-acceptance and acceptance are procedures are in place
- Procedures and control techniques in place to minimise potential emissions to air, land and water
- Operational procedures as detailed in the EMS are in place to minimise the risk of emissions having regard to the waste types being accepted and the waste processing activities at the facility
- Operational procedures are in place to minimise the risk of odours having regard to the waste types being accepted and the waste processing activities at the facility
- Appropriate storage and handling procedures are in place
- Waste despatch procedures are in place
- Provision of any impermeable surface with kerbing or sloping to protect any adjacent permeable areas
- Containment bays provided on site for the secure storage of the waste
- Wastewater management procedures in place
- There is an EMS in place for all Kiely Bros. Ltd sites to ensure standards are maintained, including incidents and complaints management procedures,
- Communication programme in place
- Techniques in place for prevention and minimisation of resource consumption e.g. Energy efficiency, use of raw materials

6.4 **Monitoring**

6.4.1 All monitoring is carried out by trained personnel and recorded on suitable forms or on digital media which is available to site managers for checking and reviewing site operations. Information is readily available to regulators on request.

6.5 Emergency Planning

6.5.1 The EMS, FPP, DMP, OMP and NVMP all have detailed emergency plans which are reviewed at least every two years or sooner following any incident.

6.5.2 Drills are undertaken regularly at least every 6 months to test emergency procedures and ensure staff are confident of the actions to take in the event of an emergency. All drills are documented and any problems highlighted are used to review the procedures if necessary.

7 Raw materials and justification

7.1 The site uses a limited range of raw materials, water, electricity, diesel and packaging. The use of materials and the investigation of alternatives is part of the company's continuous improvement planning. The table below details

Table 8.1– Table 5 EPC3 – 3c

Schedule 1 activity	Description of raw material and composition of raw material	Maximum amount daily	Annual throughput	Description of how raw material is used including main hazards	Justification for use (Form B3 Q6d)	Reducing waste arising from raw materials
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Dust Suppression System**	Water	3,250 per hour	litres (per annum)	Flocculent mist air dust suppression system – the system does not contain any hazardous chemicals which would render the waste becoming hazardous or dangerous to the environment / human health. – no other hazards associated other than slips, trips, falls etc.	Prevention of airbourne emissions into the atmosphere arising from the shredding of RDF material. Health and safety for site staff reducing the risk of inhaling volatile dusts. Keeps all wastes damp and cool thus reducing the risk of fire at the site.	No additional waste arises as a result of water use.

8 Waste Recovery or disposal

8.1.1 The company are committed to pushing the wastes they handle and produce as far up the waste hierarchy as possible and the specialisation in low volumes of difficult to handle wastes has given a particular emphasis to this ethos.

8.1.2 The site uses energy in the form of electricity and diesel for lighting and operating equipment in developing this new facility they are taking the opportunity to install energy efficient equipment where possible.

8.1.3 The company record and analyse all energy use and have policies and procedures in place which emphasise the need to avoid unnecessary use and to identify savings and efficiencies as shown in the table overleaf:

Table 9.1– Table 5 EPC3 – 3c

Schedule 1 activity	Energy use	Maximum amount daily	Annual throughput	Description of energy use	Efficiency measures
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Shredder 1**	Diesel (all mobile plant for loading the shredder)	300 litres	100,000litres	Used to power the shredder	The site aims to use diesel as efficiently as possible ATEX rules dictate use of fuel and plant design for operation in flammables area.
	Diesel (all mobile plant for loading the shredder)	300 litres	100,000litres	Used for mobile plant feeding the shredder	The site aims to use diesel as efficiently as possible ATEX rules dictate use of fuel and plant design for operation in flammables area.
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Shredder 2**	Electricity	350 kwh	200,000 kWh	Used to power the shredder	The operator will meter the consumption of electrical power within the site to produce detailed in-house power use assessments.
	Diesel (all mobile plant for loading the shredder)	300 litres	100,000litres	Used for mobile plant feeding the shredder i.e., excavators	The site aims to use diesel as efficiently as possible ATEX rules dictate use of fuel and plant design for operation in flammables area.
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Shredder 3**	Electricity	350 kwh	200,000 kWh	Used to power the shredder	The operator will meter the consumption of electrical power within the site to produce detailed in-house power use assessments.
	Diesel (all mobile plant for loading the shredder)	300 litres	100,000litres	Used for mobile plant feeding the shredder i.e., excavators	The site aims to use diesel as efficiently as possible ATEX rules dictate use of fuel and plant design for operation in flammables area.
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Eddy Current Separator**	Electricity	200 kWh	100,000 kWh	Used to power the eddy current separator	The operator will meter the consumption of electrical power within the site to produce detailed in-house power use assessments.
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Blower**	Electricity	200 kWh	100,000 kWh	Used to power the blower	The operator will meter the consumption of electrical power within the site to produce detailed in-house power use assessments.
Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste **Building**	Electricity	100 kWh	50,000 kWh	Used to provide adequate lighting in the building where waste treatment is undertaken	The operator will meter the consumption of electrical power within the site to produce detailed in-house power use assessments. The building benefits from LED lighting as an energy saving measure

9 Closure and decommissioning

9.1 Site condition report

9.1.1 A Site Condition Report (SCR) has not been produced with this variation as there is no additional land being added to the permit but in the event the permit requires surrendering, a suitable SCR will be submitted to the EA along with a surrender application.

9.2 Decommissioning plan

9.2.1 A Decommissioning Plan has been prepared meeting S5.06 section 2.11 and is shown below. The plan follows the general principles as detailed below:

- If the site is to be dismantled all equipment, buildings etc. will be disposed of having full regard to the waste hierarchy.
- Buildings and pipe work will be checked and any infrastructure likely to contain asbestos material will be inspected and removed only using suitably authorised contractors.

9.3 Sequence of decommissioning

9.3.1 **Final use** - After the final consignment of waste has been despatched from the site, electrical systems will be isolated and locked off leaving only lighting and what circuits are considered necessary for on-going inspection and maintenance in place. All systems will be double checked and labelled to ensure there are no unmarked live systems on the site.

9.3.2 For external infrastructure storage cabinets, the gas cage, LEV filtration equipment, the weighbridge, weighbridges office etc. will be removed and sold for re-use or recycling in preference to disposal.

9.3.3 The drainage system and water supply will remain intact all external yards will be washed down into the below ground tanks and any residual water removed to a suitably permitted treatment works.

9.3.4 **Dismantling** - In line with the Waste Hierarchy efforts will be made to seek a buyer for all the plant and equipment, LEV booths cabinets forklift trucks etc. either as a whole or in suitable lots.

9.3.5 **Scrapping** - If no suitable parties are found to purchase the plant it will be scrapped, again either as a whole or in suitable lots.

9.3.6 **After plant has been removed** - The whole internal area will be subject to a thorough inspection testing remaining electrical circuits labelling testing any remaining water supply pipe work and labelling any asbestos containing materials (or dealing with in line with current regulatory framework at that time).

9.3.7 Deep cleaning the building, floors and removing all residues off-site to a suitably permitted facility.

9.4 Monitoring

9.4.1 Throughout the period of decommissioning the plant and building will be checked at least weekly when dismantling work is not being undertaken and daily when it is. Checks will ensure the integrity of the drainage system is being maintained and the risk of spillage or pollution is being kept to a minimum. Contractors will be required to make their own checks and make these available during such checks.

9.4.2 Once plant has been removed periodic checking will be carried out giving regard to the risk if any the use of the area may pose.

9.5 Permit surrender

9.5.1 If the permit is to be surrendered a scheme of sampling and analysis of the soil beneath the site will be undertaken.

9.5.2 If analyses show any contamination to be present which would interfere with the succeeding use of the site this will be removed or treated to bring the ground/groundwater into an acceptable condition for the surrender of the permit and completion of the site condition report to the satisfaction of the EA or the relevant regulatory body at that juncture.

10 Environmental permitting regulations

10.1.1 The permit application meets all aspects of the EPR by virtue of being part site application and part installation application.

10.1.2 The site benefits from planning permission which has due consideration to all local and national planning policies in relation to waste disposal and recycling /recovery.

11 Habitats

11.1.1 The site is not located within any close proximity to sensitive sites,

Appendix I

Drawings

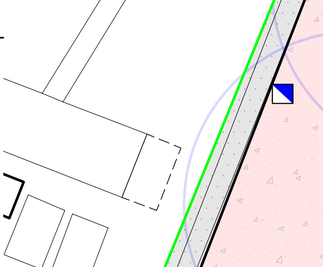
Storage Area Details Table

Plan Ref	Description	Storage form/ containment	Height, width (m) & type of firewall	Max Length / Width (m)	Operational storage height (m)	Out-of-hours storage height (m)	Approx.. Area (m2)	Conversion factor used	Volume (m3)	Tonnes (approx.)	Max storage duration	Comments
AREA 1	Tipping / reception area for residual waste (RDF material) >150mm	Free standing / fire wall	3.2m high, 0.8m thick interlocking concrete blocks	20	3	2.2	120	0.75	270	135	<24 hours	The entire pile would be processed during operational hours.
AREA 2	Shredded residual (RDF) waste <300mm	Free standing / fire wall	6, 0.15 / 0.8 & interlocking concrete blocks and concrete panel of building	20	2	2	250	0.5	250	125	<24 hours	The entire pile would be processed during operational hours.
AREA 3	Mixed HIC waste reception and sorting area	Free standing / fire wall	3.2, 15 & 0.8 interlocking concrete blocks	15	2	2	75	0.5	75	37.5	<72 hours	The entire pile would normally be processed during operational hours, 72 hours based on contingency
AREA 4	POPs/bulky waste	Free standing / fire wall	3.2m high, 0.8m thick interlocking concrete blocks	12	3	2	90	0.75	202.5	101.25	<24 hours	POPs would be removed from AREA 3 or segregated from AREA 1 following visual inspections
AREAS 5 - 8	Drying bays for SRF material awaiting removal from site	Free standing / fire wall	4, 0.8m & interlocking concrete blocks	14	4	3	50	0.75	150	75	<7 days	The nature of waste may change the bay. If the waste in the bays is wet, it may be stored for up to 7 days so it can dry naturally.
AREA 9	As above or either POPs / mixed HIC waste	Free standing / fire wall	As above	14	4	3	80	0.75	240	120	<7 days	Overflow drying bay from AREAS 5 - 8 but may also be used as overflow for wastes in AREAS 3 & 4.
AREA 10	Holding bay for processed SRF	Free standing / fire wall	As above	12	4	3	90	0.75	270	135	<7 days	Transferred to drying bays (AREAS 5-8) continuously.
AREAS A - B	Containers of non-ferrous metal removed via eddy current separator	12-cubic yard skips	N/A	3.7	1.86	1.86	10	1	20	10	<7 days	Containers usually removed weekly.
AREA C	Sorted waste containers arising from AREA 3	12-cubic yard skips	N/A	3.7	1.86	1.86	10	1	20	10	<7 days	Containers usually removed weekly.

Scale Bar (1:250)
0 m 10 m 20 m

Point source emission to water
Discharge to mains sewer
0.15m kerb & 2.4m palisade fencing
3.0m palisade fencing on 0.3m kerb
HYDRANT B = 57m from site access
HYDRANT A = 55m from site access
WOOD SHREDDING AREA
Interceptor (fitted with alarm & penstock)
Drying containers for washed fines i.e. sand, minerals
Wood storage prior to shredding
Out-of-hours mobile plant storage
3.0m palisade fencing on 0.3m kerb
Site access / egress
Two no. 30,000 litre water tanks providing fire suppression to the SWIP building
150m² / 200m³ quarantine area
Roller shutter door (closed)
Roller shutter door
3.0m palisade fencing on 0.15m kerb
3 no. drying floors containing washed stone and aggregate
Walk in fuel store for boiler feed
Roller shutter door
Barrier to protect tanks and building
Substation
SWIP PLANT / BOILER ROOM
Fenced
Offices
Two no. 30,000 litre tanks to feed APPS UK dust suppression system inside the building
0.15m kerb & 2.4m palisade fencing
AREA 10
HGV fueling area
AREA 9
Splay of dust suppression nozzles
AREA B
Security hut
Ad Blue
Cylinder storage
Proposed covered area comprising waste tipping
AREA B
Eddy current separator
Fan blows waste into the bay (AREA 9)
AREA 8
DERV tank
Fan
AREA 7
2.4m palisade fencing comprising whole of eastern boundary
0.15m kerb & palisade fencing
Trommel
AREA 6
3.2m high interlocking block wall
AREA 1
AREA 5
Loading area (waste loaded from AREA 1 into conveyor feeding the shredder)
Shredder
6m separation distance maintained when site is not operational
Shredder
Access open
AREA 2
AREA 4
6m
6m
AREA C
Boundary edge secured by building cladding (6m high) and 3.2m high interlocking block wall
Shredder
AREA 3
Loading area
0.15m kerb & 2.4m palisade fencing
Roller shutter door
Barrier to protect tanks and building
Three no. 30,000 litre tanks to feed dust and fire suppression system inside the building
0.15m kerb
0.15m kerb
Grand Union Canal
MoP

KEY:
- Permit boundary
- Area regulated by Birmingham City Council
- Permitted waste storage areas
- Temporary waste storage area (continuously moving)
- Non-waste storage areas
- Waste storage buildings
- Covered areas
- Concreted areas
- Stone surface (free-draining)
- Other buildings (offices, etc.)
- Unsurfaced areas
- Spill kit
- Mains water / hose reel connections (20m length)
- Fire fighting equipment (extinguishers, etc.)
- Plant shutoff
- Access routes for emergency vehicles
- 0.3m thick concrete panel fire walls
- 0.8m thick interlocking legio block fire walls
- Fire alarm
- Foul (dirty water) drainage
- Surface water drainage
- Drainage fall direction
- Designated smoking area
- Fire water containment equipment
- CCTV camera locations (locations indicative)
- Smoke detection camera points
- Dust & odour monitoring points
- Dust suppression nozzles
- Suppression system coverage/splay (indicative)
- Fire hydrant locations (indicative)



Compass Wind Rose for Station at Birmingham / Airport (EGBB) Period 1973 - 2022

NOTES
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REVISION HISTORY

Rev	Date	Init:	Description:
-	13.9.19	CP	Initial Drawing
A	02.8.17	CP	Amended for re-submission to EA
B	9.10.17	CP	Amended re. dust mitigation
C	17.9.19	CP	Amended for permit variation
D	11.11.19	CP	Amended for permit variation
E	19.12.19	CP	Amended for permit variation
F	23.01.23	CP	Updated for infrastructure changes
G	06.03.23	CP	Application copy
H	14.03.24	CP	Updated following infrastructure changes
I	03.05.24	CP	EA comments

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

DRAWING TITLE
SITE LAYOUT & FIRE PLAN

CLIENT
Kiely Bros. Ltd

PROJECT/SITE
101 Amington Road, Birmingham B25 8EP

SCALE @ A1	JOB NO	CLIENT NO
1:250	012	918

DRAWING NUMBER	REV	STATUS
AMI/918/03	I	Issued

DRAWN	CHECKED	DATE
CP	--	03.05.24

Lime House, Road Two, Winsford, Cheshire, CW7 3QZ
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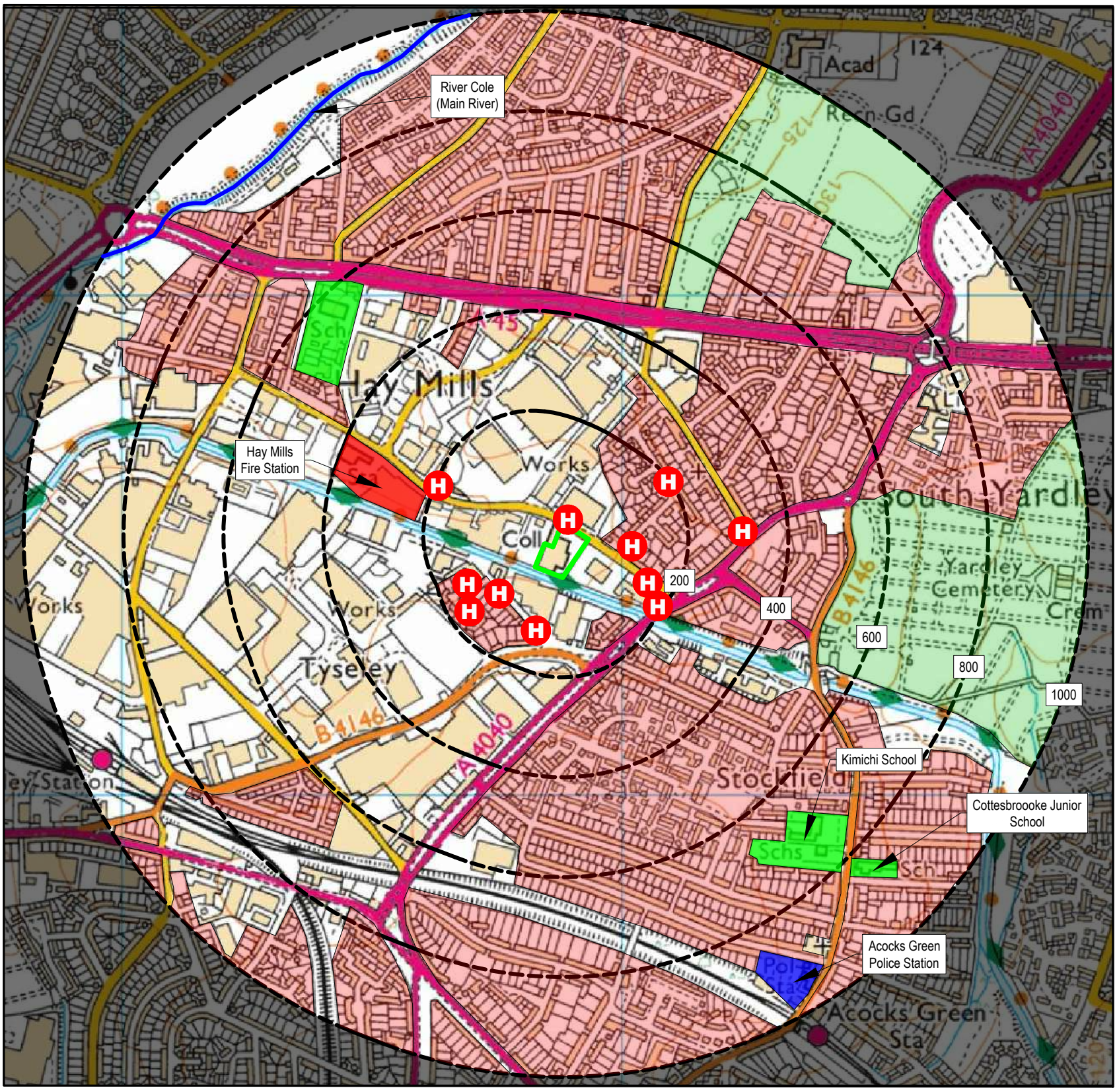
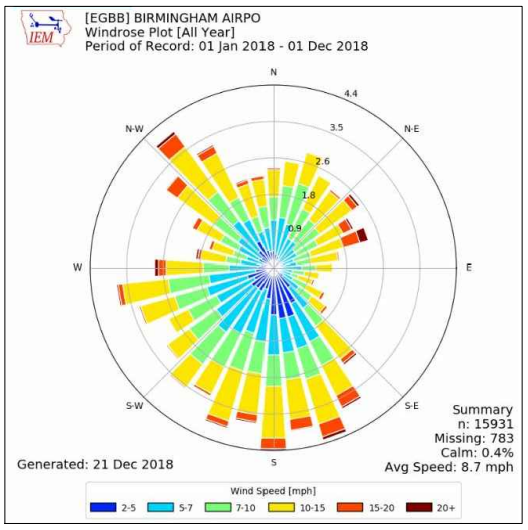


KEY:

- Permit boundary
- Surface water body (river / stream / pond / pool / lake)
- Residential blocks / workplaces
- Woodland habitats
- Fire hydrant minimum 100mm bore
- Main river (River Cole)
- Mixture of retail, commercial, and industrial premises
- Recreational / green areas
- Mixture of A, B, C roads
- Railway line



Compass Wind Rose for Station at Birmingham / Airport (EGBB) Period 2018

Scale Bar (1:10,000)

0 m 500 m 1000 m

Oaktree Environmental Ltd

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Client: Kiely Bros. Ltd			
Site: 101 Amington Road, Birmingham B25 8EP			
NGR: SP 11878 84501			
Date: 19 September 2019			Printed At: A3
Title: RECEPTOR PLAN	Scale: 1:10,000	Revision: A	Drawn By: CP
Drawing No: AMI/918/04	Client No: 918	Job No: 4146	Checked:

Notes:

(1) Boundaries of designated sites (habitats and protected sites) are shown indicatively.
(2) Wind rose data shows the prevailing wind direction from the south.

Revision Details:

Rev:	Description:	Date:
-	Initial drawing	19/06/17
A	Updated for permit variation	17/09/19

Appendix II

Summary of BAT Requirements & Implementation Plan

"COMMISSION IMPLEMENTING DECISION (EU) 2018/1147"of 10 August 2018" "establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council"		
This extract of the BAT conclusions are applicable to the site		
BAT number	**Description**	**Action**
BAT 1	Application and implementation of an Environmental Management System	Kiely Bros. Ltd have Environmental Management System in accordance ISO 9001 and ISO 14001
BAT 2	Waste stream management	Kiely Bros. Ltd existing Management Systems and Management Plans
BAT 3	Reduction of Emissions to Water and Air	Kiely Bros. Ltd existing Management Systems and Management Plans
BAT 4	Reducing Environmental Risk Associated with Storage of Waste	Kiely Bros. Ltd existing Management System and Fire Prevention Plan
BAT 5	Reducing Environmental Risk Associated with Handling and Transfer of Waste	Kiely Bros. Ltd existing Management System and Fire Prevention Plan
BAT 6 & 7	Monitoring emissions to water	Point source emission on Drawing No. AMI/918/03 to monitored at intervals and parameters agreed with the EA. Water is treated in full retention class 1 interceptor before it reaches the mains sewer system.
BAT 8	Monitoring Emissions to Air	There are point source emissions or channel uses to air
BAT 10	Monitoring Odour Emissions	Kiely Bros. Ltd existing Odour Management Plan
BAT 11	Monitoring Annual Consumption of Water, Energy, Raw Materials and Annual Generation of Residues and Waste Water	Shown within sections 8 & 9 of this BAT assessment and the site operator will maintain records of water, energy and raw material consumption, in addition to generation of residues and water on at least an annual basis.
BAT 12 & 13	Reducing Odour Emissions	Kiely Bros. Ltd existing Odour Management Plan
BAT 14	Reducing Diffuse Emissions, Particularly Including Dust, Organic Compounds and Odour	Kiely Bros. Ltd existing Odour and Dust Management Plans
BAT 17 & 18	Preventing and Reducing Noise Emissions	Kiely Bros. Ltd existing Noise Management Plan produced following a Noise Impact Assessment
BAT 19	Optimising Water Consumption	Shown within section 8 of this BAT assessment and water use will be monitored and opportunities to reduce water use will be taken, if available and if practicably possible.
BAT 20	Reducing Emissions to Water	See BAT 6 & 7 actions.
BAT 21	Preventing or Limiting Environmental Consequences of Accidents and Incidents	Refer to section 7.3 of this BAT assessment.
BAT 22	Using Materials Efficiently	Refer to section 9 of this BAT assessment.
BAT 23	Using Energy Efficiently	Refer to section 9 of this BAT assessment.
BAT 24	Reducing Quantity of Waste Sent for Disposal	Kiely Bros. Ltd existing Management Systems and Management Plans. There will be no packaging associated with the wastes to be used the site. Wastes will be minimised as far as is practicably possible and disposed/recovered in accordance with the Waste Hierarchy

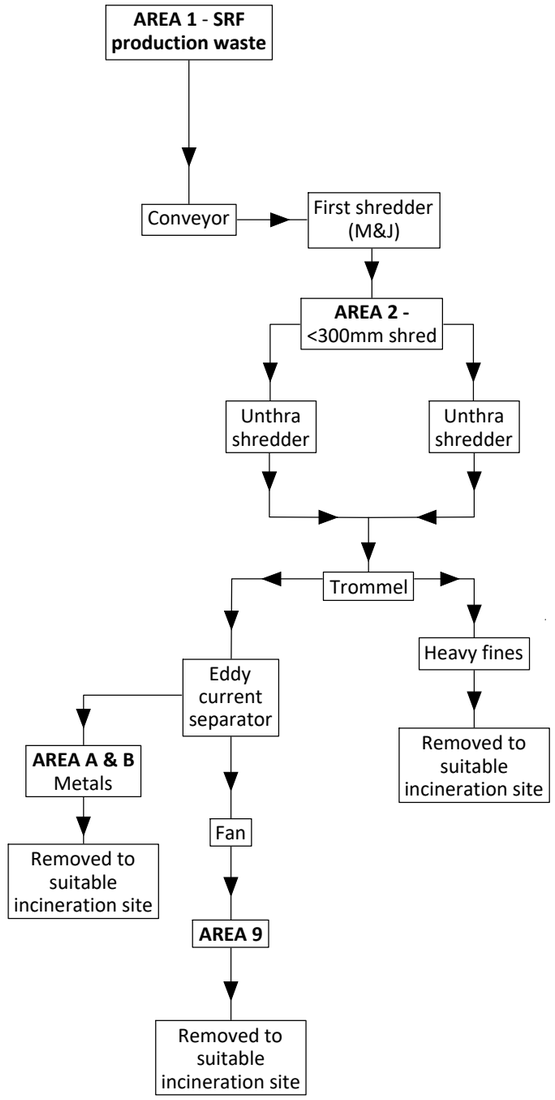
Appendix III

Emissions and Monitoring to meet BAT 6, 7 & 20

Emissions and Monitoring to meet BAT 6, 7 & 20 (BAT conclusions for the mechanical treatment of waste for incineration / co-incineration) - Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste						
Emission point ref. and location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring Standard or method**
Emission point as shown on Drawing No. AMI/918/05	Manhole	Water	To be agreed in writing with the Environment Agency	None to be set	Annual or otherwise agreed in writing with the Environment Agency	As agreed in writing with the Agency.

Appendix IV

Waste Process Flow Diagram



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REVISION HISTORY

Rev:	Date:	Init:	Description:
-	14.03.24	CP	Initial drawing

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

DRAWING TITLE
PROCESS FLOW DIAGRAM (SRF PRODUCTION PROCESS)

CLIENT
Kiley Bros. Ltd

PROJECT/SITE
101 Amington Road, Birmingham B25 8EP

SCALE @ A3	CLIENT NO	JOB NO
Not to scale	918	012

DRAWING NUMBER	REV	STATUS
AMI/918/05	-	Issued

DRAWN BY	CHECKED	DATE
CP	--	14.03.24

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