POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016
as amended

Permit Number: 2.2/072554/JT3

Installation Address:
Transition International Limited
Hi Temp Works
480 Penistone Road
Sheffield
S6 2FU

In accordance with Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016, as amended, Transition International Limited is hereby permitted to operate 2 scheduled activities at the address detailed above namely the melting, including making alloys of non-ferrous metals where the plant has a melting capacity of more than 20 tonnes per day, where no furnace, bath or other holding vessel used in the plant for the melting has a design holding capacity of 5 tonnes or more, as described in Schedule 1, Part 2, Chapter 2, Section 2.2, Part A(2), subsection (a); the directly associated activity of the heating in a furnace of any non-ferrous metal or metal alloy for the purpose of removing grease, oil or any other non-metallic contamination as described in Schedule 1, Part 2, Chapter 2, Section 2.2, Part B, (b) and the directly associated activity of the surface cleaning of metals using solvents, in accordance with Regulation 35(2) (h) and Schedule 14 of the Regulations, and Chapter V and Annex VII of the Industrial Emissions Directive, and subject to the following conditions of this Permit.

Signed _____ **Dated this day: 9th June 2022**

Commercial Team Manager
Authorised by Sheffield City Council to sign on their behalf

The BAT Conclusions Document for the non-ferrous metals industries published on 30th June 2016 in the Official Journal of the European Union (L174) implementing decision (EU) 2016/1032, and the Secretary of State's Process Guidance Note for Surface Cleaning PG6/45 June 2014, have provided the framework for the conditions in this Permit.

Name & Address of Operator:

Transition International Limited
Hi Temp Works
480 Penistone Road
Sheffield
S6 2FU
Contact: Ali Hoyes
Tel: 0114 2447441 07738 380915
email: alison.hoyes@transition.co

company registration number:4787596

Registered Office Address:

Transition International Limited
Hi Temp Works
480 Penistone Road
Sheffield
S6 2FU

Holding Company:
is a wholly owned subsidiary of Transition Participations Ltd

Address of Permitted Installation:
Transition International Limited
Hi Temp Works
480 Penistone Road
Sheffield
S6 2FU

Talking to Us.

Any communication with Sheffield City Council should be made to the following address quoting the Permit Number: epsadmin@sheffield.gov.uk
Tel: (0114) 273 4651

Environmental Protection Service
5th Floor (North)
Howden House
1 Union Street
Sheffield
S1 2SH

Contents

Explanatory Note to Environmental Permit for Part A2 Installations
(This note does not form a part of the Permit)

This Permit is issued to update some of the conditions following a change to the process to include the surface cleaning of titanium swarf using solvents.

A statutory review of permits in the industry sector for non-ferrous metals was previously undertaken.

The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. The BAT Conclusions (BATc) for the non-ferrous metals industries were published on 30th June 2016 in the Official Journal of the European Union (L174) following a European Union wide review of BAT, implementing decision (EU) 2016/1032 of 13th June 2016. The BATc for this installation which apply from 30th June 2020 are BAT 1-10, BAT 14-18, BAT 153-155 and BAT 159-162.

The following Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (S.I. 2016 No.1154), as amended, ("the EP Regulations") to permit 2 scheduled activities to operate at the address detailed previously, namely the melting, including making alloys, of non-ferrous metals where the plant has a melting capacity of more than 20 tonnes per day, where no furnace, bath or other holding vessel used in the plant for the melting has a design holding capacity of 5 tonnes or more, as described in Schedule 1, Part 2, Chapter 2, Section 2.2, Part A(2), subsection (a) and the directly associated activity of the heating in a furnace of any non-ferrous metal or metal alloy for the purpose of removing grease, oil or any other non-metallic contamination as described in Schedule 1, Part 2, Chapter 2, Section 2.2, Part B, (b) of those Regulations, and the directly associated activity of the surface cleaning of metals using solvents, in accordance with Regulation 35(2) (h) and Schedule 14 of the Regulations, and Chapter V and Annex VII of the Industrial Emissions Directive to the extent authorised by the Permit and subject to the following conditions.

Process Changes

Under the provisions of the EP Regulations, you are required to notify the Council of any proposed change in operation at least 14 days before making the change. This must be in writing and must contain a full description of the proposed change in operation and the likely consequences. Failure to do so is an offence.

If you consider that a proposed change could result in the breach of the existing Permit conditions or is likely to require the variation of Permit conditions then you may apply in writing under Regulation 20(1) of the EP Regulations. Additionally, if this involves a SUBSTANTIAL CHANGE to the installation you will be required to submit an application, pay the relevant fee and advertise the application accordingly. You may serve a Notice on the Council requesting that they determine whether any change that is proposed would constitute a substantial change before you proceed with application.

Variations to the Permit

The Permit may be varied in the future by the Council serving a Variation Notice on the Operator. If the Operator wishes any of the Conditions of the Permit to be changed, a formal Application must be submitted.

Surrender of the Permit

Where the Operator of a Part A2 installation ceases or intends to cease the operation of the activity the Operator may notify the Regulator of the surrender of the whole Permit, in any other case, notify the regulator of the surrender of the Permit in so far as it authorises the operation of the installation or mobile plant which he/she has ceased or intends to cease operating. The notification shall contain information as described in Regulation 24 or 25 of the EP Regulations.

Transfer of the Permit or Part of the Permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 21 of the EP Regulations. A transfer will be allowed unless Sheffield City Council considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

Annual Subsistence Fee

In accordance with Regulation 66 of the EP Regulations, the holder of a Permit is required to pay a fee for the subsistence of the Permit. This fee is payable annually on 1st April. You are advised that under the provisions of Regulation 66 (5) of the EP Regulations, if you fail to pay the fee due promptly, Sheffield City Council may revoke the Permit. You will be contacted separately each year in respect to this payment.

Public Register

The Council is required by Regulation 46 of the EP Regulations to maintain a Public Register containing information on all LAPPC installations and mobile plant. The register is available for inspection by the public free of charge during office hours (Monday to Friday 9.00 am to 5.00 pm) at the following address:

Environmental Protection Service
5th Floor (North)
Howden House
1 Union Street
Sheffield
S1 2SH

Tel: 0114 273 4651 or email epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk

Confidentiality

Sheffield City Council has a duty to consider the question of confidentiality of information supplied to it. If any information supplied is considered confidential, a statement of which information this applies to and the reasons why it is considered confidential should be specified. The Operator is reminded that he may apply to Sheffield City Council for the exclusion of information from the public register under the provisions of the Environmental Permitting (England and Wales) Regulations 2016 as amended.

Appeals

Under Regulation 31 of the EP Regulations Operators have the right of appeal against the conditions attached to their Permit. Schedule 6 of the EP Regulations sets out the detailed procedures.

Appeals against a Variation Notice do not have the effect of suspending the operation of the Notice. Appeals do not have the effect of suspending Permit conditions.

Notice of appeal against the conditions attached to the Permit must be given within six months of the date of the Notice, which is the subject matter of the appeal.

How to Appeal

There are no forms or charges for appealing. However, for an appeal to be valid, appellants (the person/Operator making the appeal) are legally required to provide:

- Written notice of the appeal;
- A statement of the grounds of appeal;
- A statement indicating whether the appellant wishes the appeal to be dealt with by written representations procedure or a hearing – a hearing must be held if either the appellant or enforcing authority requests this, or if the Planning Inspector or the Secretary of State decides to hold one.
- (Appellants must copy the above three items to the local authority when the appeal is made)
- A copy of any relevant application;
- A copy of any relevant Permit;
- A copy of any relevant correspondence between the appellant and the regulator; and
- A copy of any decision or notice, which is the subject matter of the appeal.

Where to Send Your Appeal Documents

Appeals should be addressed to:

The Planning Inspectorate
Environmental Appeals Administration
Room 4/19 – Eagle Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

In the course of an Appeal process the main parties will be informed of procedural steps by the Planning Inspectorate.

To withdraw an appeal the appellant must notify the Planning Inspectorate in writing and copy the notification to the local authority.

Enforcement

An **Enforcement Notice** may be served if the Local Authority believes an Operator has contravened, is contravening or is likely to contravene any condition of their Permit.

A **Suspension Notice** may be served if in the opinion of the Local Authority the operation of an installation involves an imminent risk of serious pollution. This applies whether or not the Operator has breached a Permit condition.

The Local Authority can revoke a Permit by written notice at any time by serving a **Revocation Notice**. The Permit then ceases to authorise the operation of the installation.

Offences

A limited summary of the offences is listed below:

a) operation of an installation without a Permit
b) failure to comply with or contravene a Permit condition
c) failure to comply with the requirements of an enforcement or suspension notice

A full list is available under Regulation 38 of the Environmental Permitting (England & Wales) Regulations 2016, as amended.

Penalties

The maximum penalties for the above offences are a fine not exceeding £50,000 and/or up to twelve months imprisonment per offence for a summary conviction (in a Magistrates Court); and a fine and/or up to five years imprisonment for conviction on indictment (in a Crown Court).

Definitions

In relation to this Permit, the following expressions shall have the following meanings:

"Accident" means an accident that may result in pollution.

"Application" means the application for this Permit, together with any additional information supplied by the Operator as part of the application and any response to a notice served under Schedule 5 to the EPR Regulations.

"Authorised officer" means any person authorised by Sheffield City Council under section 108(1) of the Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108 (4) of that Act.

"Average over the sampling period" means the average value of three consecutive measurements of at least 30 minutes each, unless otherwise stated, as defined in the *General Considerations* section of the Non-Ferrous Metals BAT Conclusions. For batch processes, the average of a representative number of measurements taken over the total batch time or the result of a measurement carried out over the total batch time can be used.

"BAT-AELs" means BAT associated emission levels, ie the emission levels associated with the best available techniques for emissions to air and/or water, as set out in the Non-Ferrous Metals BAT Conclusions.

"Daily average" means the average over a period of 24 hours of valid half-hourly or hourly averages obtained by continuous measurements, as defined in the *General Considerations* section of the Non-Ferrous Metals BAT Conclusions. A half – hourly or hourly average shall be considered valid if measurements are available for a minimum of (a) 20 minutes during the half hour, or (b) 40 minutes during the hour. The number of half-hourly or hourly averages so validated shall not exceed 5 per day.

"EPR Regulations" means the Environmental Permitting (England and Wales) Regulations 2016 (as amended) S.I. No. 1154 and words and expressions used in this Permit which are also used in the Regulations have the same meaning as those in the Regulations.

"Emissions of substances not controlled by emission limits" means emissions of substances to air, water or land from the activities, either from the emissions points specified in the Permit or from localised or diffuse sources, which are not controlled by an emission limit.

"Groundwater" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"Hazardous property" has the meaning in Annex III of the Waste Framework Directive.

"Hazardous waste" has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

"Industrial Emissions Directive" means DIRECTIVE 2010/75/EU/OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November on industrial emissions.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"Monthly average" means the average over a period of a calendar month of valid daily averages obtained by continuous measurements.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that.

Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes and not subject to BAT-AELs for air emissions, the concentration in dry air at a temperature of 273.15K, at a pressure of 101.3kPa, and with an oxygen content of 3% dry for liquid and gaseous fuels and 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources and not subject to BAT-AELs for air emissions, the concentration at a temperature of 273.15K and at a pressure of 101.3kPa, with no correction for water vapour content; and/or
- in relation to emissions from non-combustion sources subject to BAT-AELs for air emissions, the concentration in dry air at a temperature of 273.15K and at a pressure of 101.3kPa; and/or
- in relation to emissions from combustion processes subject to BAT-AELs for air emissions, the concentration in dry air at a temperature of 273.15K and at a pressure of 101.3kPa, and with an oxygen content of 3% dry for liquid and gaseous fuels and 6% for solid fuels.

"Permitted Installation" means the activities and the limits to those activities described in this Permit.

"Monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"Regulator" means any officer of Sheffield City Council who is authorised under section 108(1) of the Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in Section 108(1) of that Act.

"BAT" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the bases for emission limit values designed to prevent, and where that is not practical, generally to reduce emissions and the impact on the environment as a whole. For those purposes:

"available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator;

"best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole; "techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned. Schedule 2 of the Regulations shall have effect in relation to the determination of best available techniques, and;

"Fugitive Emission" means an emission to air from the Permitted installation that is not controlled by an emission limit imposed by a condition of this Permit.

"grading" means the sorting of metals to industry-agreed specifications ready for use, without the need for further treatment, by the end consumer to manufacture new metals.

"Impermeable surface" means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface, and should be read in conjunction with the term "sealed drainage system" (below).

"pollution" means emissions as a result of human activity which may –

a) be harmful to human health or the quality of the environment,
b) cause offence to a human sense,
c) result in damage to material property, or
d) impair or interfere with amenities and other legitimate uses of the environment.

"quarter" means a calendar year quarter commencing on 1st January, 1st April, 1st July or 1st October.

"R" means a recovery operation provided for in Annex IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5th April 2006 on Waste.

"sealed drainage system" in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

a) no liquid will run off the surface otherwise than via the system;
b) except where they may lawfully be discharged to foul sewer, all liquids entering the system are collected in a sealed sump.

"separation" means separating wastes into different material types, components and grades.

"shearing" means utilises a range of hydraulic machinery that comprise hard steel blades which cut metals into manageable sizes. It may be hand-held, static, or attached to mobile plant (e.g. cranes)

"Sorting" means sorting that may be undertaken by hand or machinery. Sorting enables materials to be processed/recycled appropriately. It may involve separation of different waste types or the separation of different metal types including:

- different ferrous metals
- non-ferrous metals
- non-metallic materials (e.g. paper and plastic)

The sorted metals are graded by visual inspection, supplemented by chemical and other laboratory tests. The physical sorting may be assisted by conveyors and electromagnets.

"SSSI" means Site of Special Scientific Interest within the meaning of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

"Waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

"year" means calendar year commencing on 1st January and ending 31 December.

Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the document with the most recent publication date shall be taken to be the most appropriate document to be used.

Description of Activities

Main Activities.

Transition International Limited operates a decontamination, melting and crushing process to produce sized ferro-alloys. The Melt Shop has a melting capacity of more than 20 tonnes per day of non-ferrous metals in the form of ferro-titanium ingots and other ferro-alloys. The alloying process is slag free.

The installation is located as indicated in Schedule 1 “Installation Location” which forms part of this Permit. The Installation Boundary is indicated in Schedule 2, the Installation Layout and Process Flow Schematic are presented in Schedule 3 and 4 respectively. The process steps involve the following:

Receipt of Raw Material:

All feedstock (swarf, solids and steel) is delivered to site by road and enters via the delivery entrance at the rear of the site. All incoming material passes over the weighbridge where it receives initial inspection to ensure it conforms with the delivery note. A material sample is taken of the swarf for quality control purposes. Ferrous units are purchased to a specification in the form of mild steel solids.

Solids

Solids can be in any form from sheet, chips, lumps, billets or waste component parts. After offloading and sampling, the solids are graded and processed into suitable size for addition to the furnace. Depending on the form, material may be sent for shearing, shredding, baling or oxy propane burning. Solid scrap is analysed and graded and stored in bays 9-11 of the concreted processing shed. Oversized solids are sent to the burning booth for furnace preparation.

Burning Booth

Oversized solids are cut to furnace ready size in a dedicated burning booth using an oxy-propane cutting torch. Emissions of fume and dust are captured in the booth, filtered and ducted to the DCI CV10-23 bag filter before exhausting to atmosphere via a 14 metre high stack.

Turnings Processing

Turnings arrive either loose in bulk or in containers such as boxes, drums, skips etc. The load is sampled for oil & moisture content and chemical assay. Once cleared for production it is stored in designated, impervious areas which are referenced as Raw Materials Storage on the Installation Layout in Schedule 3. Turnings bays are designed so that any excess run off from bulk loads is directed to a sealed catch pit to the rear of the storage area. The pit is subject to regular checks which are recorded through the planned preventative maintenance system and emptied when necessary.

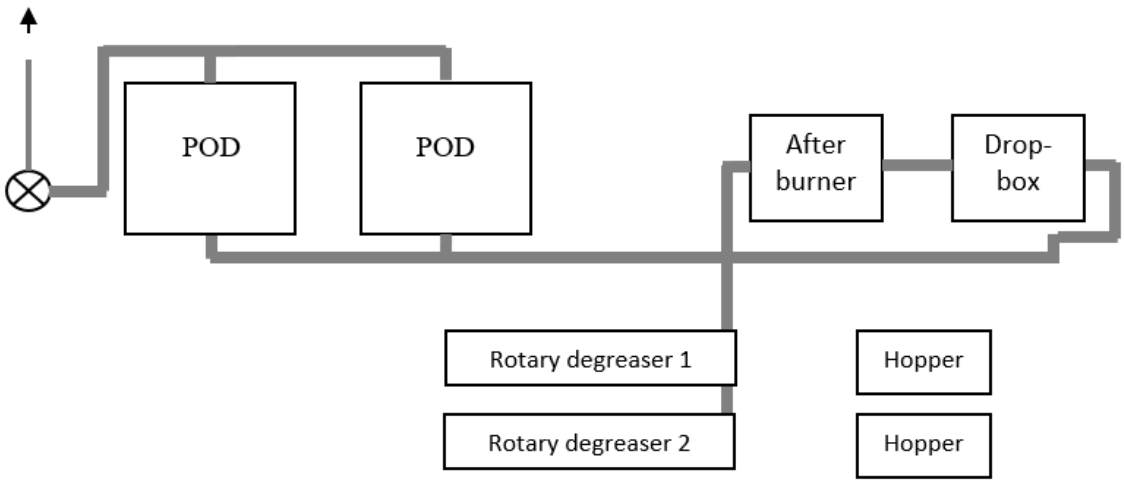
Chipping/Hammer Mill

Turnings are processed through one of two chipping machines and then crushed to a free flowing and uniform size in a hammer mill. Fire suppression systems are fitted to the hammer mill in case of emergency. The material is collected in a skip and transported to a holding area before being sent for degreasing.

Thermal Degreasing
Chipped turnings are moved into hoppers which feed two gas fired rotary furnaces that burn off oil and cutting fluid residue. Once the unit has reached the desired operating condition, turnings pass through the rotary drier section of the degreaser against a hot air flow which is maintained by a gas burner and extraction fan. Hot air containing oil bearing gases is produced and captured by hoods on the rotary driers. This then travels through an afterburner which is maintained at a minimum of 850°C. The afterburner is fitted with an interlock such that if the temperature falls below 800ºC an alarm sounds and the feedstock conveyor is stopped, until the afterburner temperature reaches 850°C. Residence time of gas within the afterburner is a minimum of 2 seconds in the high temperature zone.

Thermal Degreasing Filter Plant
Post afterburner, the hot air is passed through a drop out box (where larger particles will drop out), along ductwork and into two Glosfume filter units before being exhausted to atmosphere via a 10 metre vertical stack. Final exhaust emissions are approximately 160°C. The ceramic filters have measured air flow capacity of 1,100cfm and 1,600cfm and are fitted with a 'clean on demand' reverse air pulse to remove dust build up. The dust is collected directly into drums and removed from site through a licensed contractor. Pressure differential across the ceramic filters is monitored by magnehelic gauges to warn of filter blinding or failure. The exit stack is fitted with a Codel MCERTS registered quantitative triboelectric particulate monitor with data logger. This continuously monitors levels of particulate in the stack and will alarm at the degreaser control panel if activated. If the alarm sounds the cause is investigated and if the reading is above 4mg/m^3 the process is shut down for examination of the filters. Activity from the datalogger is continually sent to a dedicated computer where the results are reviewed on a daily basis.

Degreaser Plant Layout



Melting
The installation operates 2 electric induction furnaces for the melting of decontaminated turnings and scrap. Furnace D1 has a melt capacity of 2 tonnes and furnace D2 has a melt capacity of 3 tonnes, both furnaces produce ferro alloys.

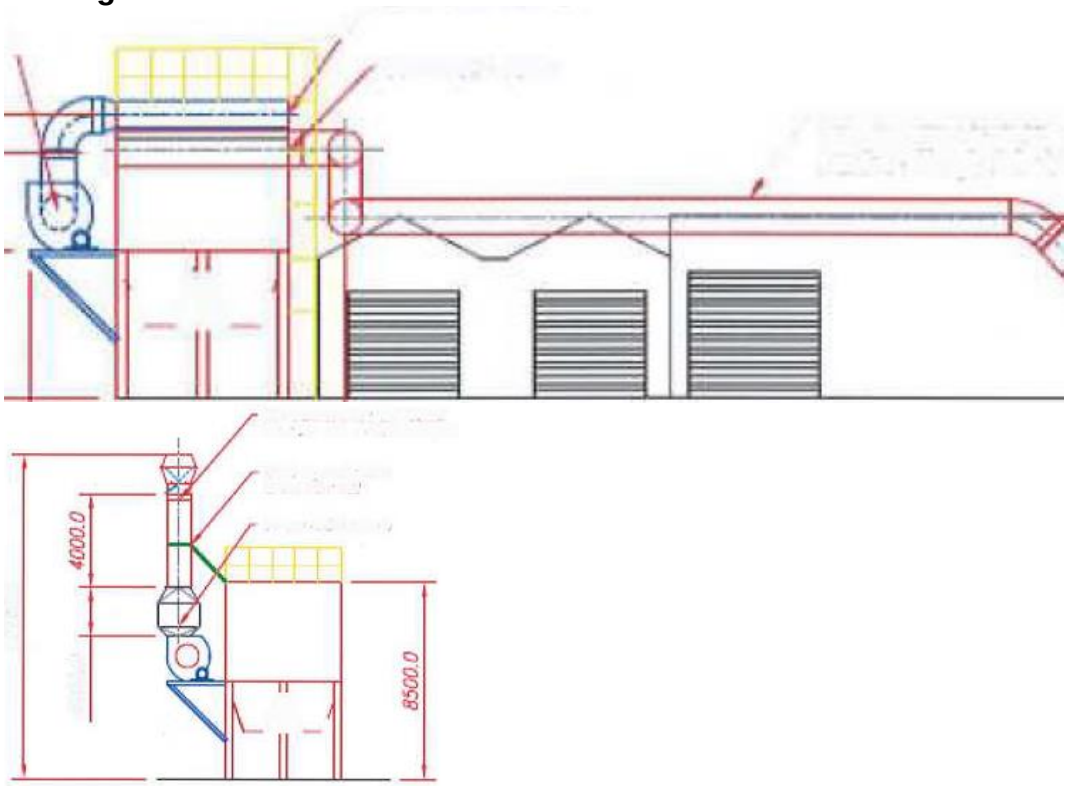
Furnace charges are calculated based on the analysis of raw materials. Materials are weighed into pans and fed into the furnaces using a hopper and chute arrangement. Pouring of molten ferro-alloys into steel ingot pans occurs inside the melting shop. Once cast, the ingots are left to solidify briefly and then transferred to an external holding area to complete the cooling process.

Emissions from melting and casting are captured by hoods and exhausted to a reconditioned DCI CV10-23 dust extraction filter plant with Nomex rated tubular sock filter media. The system design capacity is 45,000m^3 /hour (26,000cfm) with an air transport speed of 15m/s. The plant exhausts via a 1m diameter 14m high stack fitted with a Swedish cowl. Stack particulate matter emissions are continuously monitored by an MCERTS quantitative triboelectric continuous emissions monitor with datalogger, which is set to trigger an alarm when emissions reach 4mg/m^3.

Filters are cleaned of dust using a reverse pulse air jet system and the arrested dust is collected directly under the filter unit in closed skips prior to disposal. The pressure differential across the filters is continuously monitored by a magnehelic gauge, to warn of filter failure or blinding.

Emissions data are collected electronically and reviewed daily.

Melting Furnace Filter Plant



Furnace Cooling System

D1 and D2 furnaces are cooled with water from a pressurised closed loop system. There are two pumps, which are regularly switched to check operability and equalise duty. Air cooled water is pumped to the furnaces then returned to the cooler via a flow and temperature gauge in order that system status can be monitored. In the event of a power

failure an alarm will sound as flow rate drops and a gravity fed system is manually deployed until such time as power is restored.

Ferro Alloy Crushing.
Ingots are selected for batching according to customer requirement and placed into the pre-crushing bays. Batches are tipped into trays and transferred to the FeTi Crushing Shop. The material is processed through a series of four crushing machines and sieves, to resize the material according to the work order. Once the desired size is met the material is bagged, sampled and stored under cover prior to despatch.

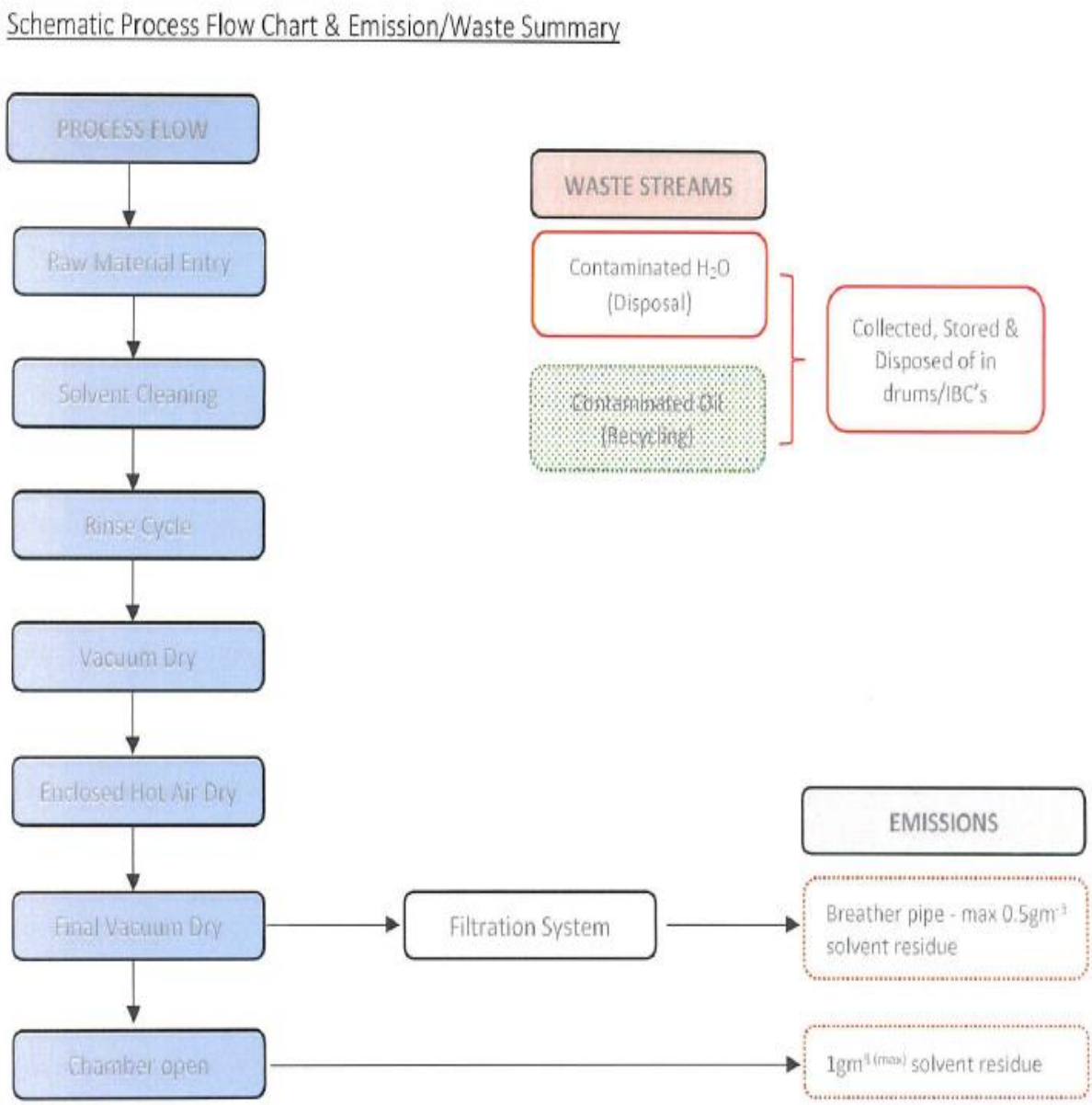
The crushing building and production operation have been specifically designed to prevent any nuisance noise or dust affecting neighbouring premises. Dust from this activity is contained within the building. Noise and vibration is minimised by placing the plant on a floating concrete raft and seating on anti-vibration mounts.

Cleaning of the equipment and floor area is completed after every batch and deep cleaning of the building is completed on a rolling basis throughout each month to reduce build-up of fine material and associated fire hazards.

Surface Cleaning of Metals Using Solvents
A proportion of the titanium swarf is degreased using a (commercially sensitive) solvent rather than via the heat treatment method. The solvent is delivered to site in 205 litre bunded drums and stored in a bunded area. Solvent is pumped into the hermetically sealed machine using closed transfer systems.

The machine is a closed loop solvent washing system designed specifically for industrial use on surface metal cleaning. The computer-controlled technology allows cleaning to be undertaken completely under vacuum with a close loop transfer system to ensure the solvent is optimally recycled and the waste stream is minimised, with no exhaust to air during the cleaning process. There is a final vent to air, once it has gone through 4 x filters and satisfies the safe emission criteria controlled by the system.

Surface Cleaning of Metals Using Solvents Schematic Process Flow



CONDITIONS OF PERMIT

All conditions shall be complied with immediately unless otherwise stated in the condition.

Section 1 – The Permitted Installation

1.1 Transition International Limited is Permitted to carry out only the activities and/or associated activities specified in Table 1 below.

Table 1 – Permitted Activities

Listed/ Directly Associated Activity	Description of Specified Activity
Section 2.2 Part A2a(i)	Melting of non-ferrous metals where no furnace used in the plant has a design holding capacity of 5 tonnes or more.
Section 2.2 Part B (b)	The heating in a furnace or any other appliance of any non-ferrous metal alloy for the purpose of removing grease, oil or any other non-metallic contaminant.
Delivery and storage of raw materials such as swarf, scrap, oil, laboratory supplies etc.	Handling raw materials from receipt, storage and handling in designated areas or by designated methods.
Chipping swarf	The pulverising and chipping of swarf in a proprietary crusher, hammer mill & centrifuge
Surface cleaning Regulation 35(2) (h) and Schedule 14 of the Regulations, and Chapter V and Annex VII of the Industrial Emissions Directive	The surface cleaning of metal swarf using solvent in a bespoke, hermetically sealed machine
Oxy cutting oversize	The cutting of oversized solid scrap materials by oxy-propane torch in a dedicated burning booth with extraction and filtration.
Casting	The pouring of molten metal into steel pans to produce ingots up to 2 tonnes in weight, inside the foundry building. The emissions are captured by the hood leading to extraction and filtration.
Cooling of ingots	The natural cooling of cast ingots in the open air or under cover.
Crushing of ingots	The crushing of ingots in series by crushing plant housed within a sound insulated building. Plant is seated on anti-vibration mounts.
Cooling of furnaces	The use of a closed loop system for the water cooling of the 2 melting furnaces.
Storage and handling of final products	Storage and handling of ingots and crushed ingots.
Storage and handling of waste materials	The receipt, storage and handling of waste materials including, but not exclusive to, scrap and turnings, and the production of wastes such as dust from arrestment plant, waste oils, laboratory waste etc.

1.2 The activities at the installation shall only be carried out within the installation boundary outlined in red on the Installation Location and Boundary plan shown in Schedule 2 of this Permit, prior to the completion of the flood protection works and upgrading of the concrete in section A in Schedule 2.

1.3 Following completion of the flood protection works and the upgrading of the concrete in section A in Schedule 2, to the written satisfaction of the Regulator, the activities at the installation may be carried out within the installation boundary outlined in red on the Installation Location and Boundary plan shown in Schedule 3 of this Permit.

1.4 Plant or equipment for the prevention of emissions shall consist of that specified in Table 2 - Permitted Arrestment Plant. No other plant shall be used except where a formal written application has been submitted to and approved in writing by the Regulator. Abatement plant specified shall be in place and fully operational during all times that relevant activities are taking place.

Table 2 – Permitted Arrestment Plant.

Plant	Point Source*	Emission Source	Continuous Monitoring	Stack Height
Afterburner, drop out box, and Glosfume ceramic filters with reverse jets	A	Swarf processing	Magnehelic gauge and Codel MCERTS triboelectric quantitative monitor	10 metres
Furnace extraction hood leading to dry bag fabric filter with reverse jets	B	Melting	Magnehelic gauge and Codel MCERTS triboelectric quantitative monitor	14 metres
Burning booth extraction leading to dry bag fabric filter with reverse jets	B	Oxy cutting of oversize	Magnehelic gauge and Codel MCERTS triboelectric quantitative monitor	14 metres
Yard sealed drainage/catchpits		Swarf materials store, “ex-Streetforce” recycling/waste yard.	Fill level device	n/a
Solvent degreasing machine		Surface metal degreasing using solvent	Of chamber concentration of solvent in mg/m^3	n/a

* located as indicated on the Installation Boundary shown in Schedule 2 to this Permit

1.5 The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this Permit.

Section 2– Plant and Equipment

2.1 Permitted activities shall only be carried on using the plant and equipment as detailed in the Description of Activities section of this Permit.

2.2 The Operator shall notify Sheffield City Council's Environmental Protection Service, hereafter referred to as "the Regulator", of any proposed operational changes including any alterations to the process involving the provision of new plant or equipment which may affect emissions or have consequences for the environment. The information shall be submitted at least 14 days before the changes take place.

Section 3 – Emission Limits and Controls: Air

3.1 There shall be no burning of materials, including waste, in the open air, inside buildings or in any form of incinerator in connection with the activities within the installation boundary, without permission in writing from the Regulator.

3.2 Emissions from combustion processes shall be free from visible smoke and in any case shall not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742:2009.

3.3 All reasonably practicable steps shall be taken to minimise the duration and visibility of emissions during start up and shut down.

3.4 Emissions to air shall be free of offensive odour beyond the installation boundary as perceived by the Regulator, unless proven to be employing the best available techniques.

3.5 Emissions to air shall not exceed the emission limits for specific processes as set out in Table 3.

3.6 No plant or equipment used for any activity shall be operated with an extraction point direct to the external air unless specifically noted within this Permit in Table 3 or specifically agreed in writing with the Regulator.

Table 3 – Emissions Limits and Controls for Emissions to Air

Pollutant	Emission Limit	Type of Monitoring	Frequency of Monitoring	Applicable To
Dioxins PCDD/F	0.05ng/m^3	Manual extractive testing BS EN 1948:2006 Parts 1,2 and 3, or any update thereof	Annually	All furnace operations – charging, fluxing, melting, pouring. Furnace stack B.
Total particulate matter	5mg/m^3	Continuous recorded monitoring **plus** extractive monitoring BS EN 13284-1 or any update thereof	Continuous monitoring plus annual extractive	Swarf processing & degreasing. Degreaser stack A.
TVOC expressed as total	20mg/m^3	Manual extractive testing BS EN 12619:2013 or any update thereof	Annually	Swarf processing & degreasing. Degreaser stack A.
Chloride emissions excluding particulate matter	10mg/m^3	Manual extractive testing BS EN 13211 BS EN 1911:2010 or any update thereof	Annually	Swarf processing & degreasing. Degreaser stack A.
benzo-(a)-pyrene	1mg/m^3	ISO 11338-1 and 11338-2. EN ISO 17993	Annually	Swarf processing & degreasing. Degreaser stack A.

* emission points located as indicated on the Installation Layout shown in Schedule 7 of this Permit.

3.7 There shall be no emissions to external air of un-contained pollutants other than those listed in Table 4.

Table 4 - List of Uncontained Emission Points to Air

Emission Point Reference *
Wall louvres, melting shop
Open frontage of melting shop
Open sides of degreasing shed
Roof vents of melting shop

3.8 There shall be no offensive odour emitted from the installation detected beyond the installation boundary as perceived by the Regulator, unless deemed to be employing the Best Available Techniques.

3.9 The introduction of dilution air to stack emissions to achieve concentration limits is not permitted.

3.10 The final efflux velocity of all emissions from the final point of discharge to atmosphere of tested emission points shall be a minimum of 15m/s. The discharge shall be vertically upwards.

3.11 Process stacks shall not be fitted with any plate, cap or cowl at the final opening unless otherwise agreed in writing by the Regulator.

3.12 Emissions from the installation, other than steam or condensed water vapour, shall be free from persistent mist and free from persistent fume.

3.13 There shall be no persistent visible emissions from the installation.

3.14 There shall be no visible emissions of dust, smoke or fume beyond the installation boundary as indicated on the plan shown in Schedules 2 and 3 of this Permit.

3.15 The filters serving the melting furnaces and the swarf degreasing units shall each be fitted with a magnehelic gauge for detection of abatement plant failure. The gauges shall be in operation for the duration that the abatement plant is in use.

3.16 Emissions of total particulate matter in the stack from the melting operations shall be continuously monitored and recorded using an MCERTS quantitative particulate monitor, during all melting and pouring operations.

3.17 Emissions of total particulate matter in the stack from the thermal degreasing operations shall be continuously monitored and recorded using an MCERTS particulate monitor during all thermal degreasing operations.

3.18 The alarms on the continuous particulate monitors serving the melting and degreasing operations shall each activate when the emissions of total particulate matter reach 4mg/m^3.

3.19 Activation of any alarm on the particulate monitors serving the melting and degreasing operations shall be automatically recorded.

3.20 The temperature of the afterburner serving the thermal degreasing plant shall be continuously measured, automatically recorded and fitted to an alarm to warn the Operator when the temperature falls below 850°C.

3.21 Interlocks on the thermal degreasing plant shall prevent the addition of further materials to the degreaser at any time when the temperature in the secondary combustion chamber falls below 850°C.

3.22 The thermal degreasing plant shall not be overloaded in order to ensure maximum efficiency and to reduce the production of smoke.

3.23 Loading of the thermal degreasing plant main chamber shall not occur until the thermal oxidiser has reached a temperature of 850°C.

3.24 The thermal oxidiser serving the thermal degreasing plant shall be maintained at a temperature of at least 850°C and the residence time of gases in the afterburner chamber shall be a minimum of 2 seconds.

3.25 The height of the stack off the ceramic filters serving the degreasing plant shall be a minimum of 10 metres above ground level.

3.26 The height of the stack off the fabric filters serving the melting furnaces shall be a minimum of 14 metres above ground level.

3.27 Emissions during pouring and casting of metal from the induction furnaces shall be contained by the furnace hoods, as far as reasonably practicable. The hoods shall be permanently directly ducted to the fabric filters.

3.28 The filters serving the melting and degreasing operations shall be cleaned automatically by reverse air jets throughout the melting and degreasing activities.

3.29 Arrested particles from the abatement filters shall be collected directly into sealed containers or bags underneath the arrestment plant in order to prevent the double handling of particulates.

3.30 Scrap and oversized metals shall only be oxy cut in the dedicated burning booth with the extraction running.

3.31 Degreasing and melting shall only take place with the associated filters in place and extraction running.

Section 4 – Emissions Limits and Controls: Controlled Waters

4.1 Emissions to controlled waters, including watercourses or groundwaters from the installation are not permitted.

4.2 The Operator shall maintain a record of all subsurface drains, sewers, plant, equipment, sumps or storage vessels to include the routing of all pipe-work. The record shall incorporate a clear diagrammatic representation of the systems. This record shall be made available to the Regulator on demand.

4.3 The whole operational area of the ground of the installation shall be provided with concrete hard standing or other impervious covering in order to prevent emissions to controlled waters, groundwaters or soils.

4.4 The concrete hard standing covering the installation shall be inspected on a risk assessed basis. Particular attention shall be given to areas surrounding storage tanks, bunded areas, waste storage areas and raw material storage areas. Defects in the concrete hard standing shall be recorded and rectified within 4 weeks of the inspection. Details of the inspections and any remedial works shall be recorded.

4.5 The Operator shall carry out an appropriate inspection, testing and maintenance programme for all subsurface structures, pipes, drains containing or transporting gaseous, liquid or solid matter with the potential to become airborne or contaminate soil or groundwaters.

4.6 The Operator shall maintain a site plan identifying risk areas where materials or spillages may have the potential to affect ground waters or contaminate the ground. The areas identified shall be given a high priority for inspection in the planned preventative maintenance programme. A copy of the plan shall be submitted to the Regulator upon request.

4.7 All tanks or storage containers of potentially harmful liquids such as oil, shall be bunded. Bunds shall be impermeable and resistant to the materials stored, have no outlets and drain to a blind collection point. Bunds shall be designed to have a holding capacity of at least 110% of the largest tank or container and shall be located more than 10m from the nearest watercourse.

4.8 All bunds shall be inspected in accordance with a written planned preventative maintenance programme. All inspections and checks shall be recorded and any defects rectified promptly. Details of the remedial works shall be recorded.

4.9 All storage tanks of potentially harmful liquid, excluding IBC's, shall be fitted with a high level alarm or volume indicator to warn of over filling. The filling system shall be interlocked to an alarm system to prevent over filling. Delivery connections shall be located in a bunded area or suitable alternative arrangement and shall be fixed and locked when not in use.

4.10 All operational and storage areas shall have an impervious surface, spill containment kerbs, sealed construction joints and be connected to a sealed drainage system.

4.11 Spillages or accumulations of oils, dusts or other potentially contaminative substance shall be dealt with immediately.

4.12 Records of all spillages dealt with shall be kept in the log book or recording system kept in accordance with this Permit.

4.13 Suitable and sufficient spill kits shall be provided at appropriate locations around the installation and staff shall be trained on their use.

4.14 Run off water, oils and other substances from the swarf raw material storage areas shall be channelled to interceptors which lead to a sealed catchpit.

4.15 All interceptors to the site drainage system shall be impermeable and be visually checked at least once every 3 months. Any contamination found shall be removed immediately.

4.16 The yard catchpits shall be fitted with a float pump which activates an alarm when the catchpit is at 85% capacity.

4.17 At least once in every 18 month period, or when the float pump alarm is activated, the interceptors and yard catchpits shall be cleared of all contents.

Section 5 – Emissions Limits and Controls: Sewers

5.1 There shall be no process emissions or process effluent to sewer or surface water drainage without the prior consent of the Regulator.

5.2 Any process effluent shall be kept separate from surface drainage unless agreed in writing with the Regulator.

Section 6 – Emissions Limits and Controls: Land

6.1 Discharges to land from the installation are not Permitted.

Section 7- Monitoring, Sampling and Measurement of Emissions

7.1 Emissions to air shall be monitored at the frequency specified in Table 3.

7.2 At least 7 days prior to any non-continuous monitoring being carried out, the Operator shall ensure that site specific monitoring protocols are submitted to the Regulator for approval. The monitoring protocols shall include the proposed date and time of the testing, the methods to be used and the pollutants to be monitored.

7.3 The results of annual non-continuous monitoring tests shall be forwarded to the Regulator within 8 weeks of completion of the testing.

7.4 The Operator shall ensure that adequate facilities for sampling are provided on vents or ducts. Sampling points on new plant shall be designed to comply with the British or equivalent standards.

7.5 Monitoring shall be carried out in accordance with methods described in M1 "Sampling requirements for stack emission monitoring"[1] and "Monitoring stack emissions: techniques and standards for periodic monitoring"[2] published by the Environment Agency, or by another method agreed in writing by the Regulator.

[1] Environment Agency, January 2017, or any re-issue or update

[2] Monitoring stack emissions: environmental permits - GOV.UK (www.gov.uk)

7.6 Where the results of any non-continuous monitoring are adverse, the Operator shall investigate the matter as soon as possible. The investigation shall include the following steps:

- Close down the process or plant responsible for the breach;
- Identify the cause of the breach;
- Carry out any necessary works or repairs to ensure compliance with the emission concentration limit;
- Re-test the plant to check compliance with the emission concentration limit specified as soon as possible;
- Submit the re-test emissions monitoring report to the Regulator within 7 days of receipt of the results;
- Record details of investigation and outcomes in the log book or recording system.

7.7 Where the results of any non-continuous monitoring exceed the emission concentration limit, the Operator shall inform the Regulator no later than 10:00 hours the following working day after receipt of the results of the emissions testing.

7.8 The Operator shall ensure that adverse results from monitoring and assessments carried out in accordance with conditions of the Permit, and alarm events, are investigated immediately to identify the cause of the emission and allow the appropriate corrective action to be taken. The corrective action taken shall be recorded in the log book or recording system kept in accordance with condition 7.9.

7.9 The Operator shall ensure that a log book or suitable recording system containing the details and results of all visual and olfactory assessments, records of all inspections, checks and assessments made in accordance with Permit conditions is kept. These records shall include the time and date of inspection, the nature, colour, persistency and intensity of any emission and the name of the person carrying out the assessment. The log book or recording system shall be kept on the premises and made available for inspection by the Regulator. Such records shall be kept for a minimum of two years and shall be furnished in writing to the Regulator on request.

7.10 The Operator shall inform the Regulator within one day in cases where:

- An emission is likely to have an effect on neighbouring premises; or
- There is a failure of any arrestment plant.

The report to the Regulator shall include:

- The date and time of the incident;
- The cause and nature of the incident;
- Details of any abnormal emissions;
- Remedial action taken.

For the purpose of this condition, abnormal emissions are emissions to air, land, sewer or groundwater, including noise, that have the potential to have an adverse impact beyond the boundary of the installation.

7.11 A six monthly summary of the logged emissions and alarm events from the continuous monitors serving the melting abatement plant and the swarf degreasing abatement plant shall be submitted to the Regulator within 2 weeks of the six month period. The first summaries shall be submitted by 31st July 2022.

7.12 The continuous particulate matter readings shall be on display to appropriately trained operating staff in mg/m^3 for degreasing and furnace emissions.

7.13 The particulate continuous emissions monitors shall monitor and collect accurate data >95% of the time.

7.14 Results of non-continuous monitoring shall include details of process conditions at the time of monitoring, monitoring uncertainty and any deviations from the procedural requirements of standard reference methods and any error invoked from such deviations.

7.15 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contaminants.

7.16 The groundwaters and soils shall be monitored for the relevant hazardous substances associated with the installation. Each assessment shall be recorded and reported in writing to the Regulator. The sampling for the “Caravan Park” shall be completed by 1st July 2022. The report of the results of sampling shall include interpretation of the results with reference to previous monitoring undertaken, including any baseline reports, and details of corrective actions that are required to protective groundwaters and soils and remedy any contamination that may have occurred as a result of permitted activities.

7.17 The Operator shall provide a detailed soil and groundwater sampling programme, within 8 weeks of the date of issue of the permit, describing how condition 7.15 will be complied with and detailing all the relevant hazardous substances for the installation. The sampling programme shall include the locations at which monitoring shall be carried out and the methodology which shall be used.

7.18 The sampling programme required by Condition 7.17 shall be reviewed no later than 5 years after each monitoring event. The purpose of the review shall be to determine whether any changes to monitoring locations, frequency or parameters are required. Where changes are proposed, the Operator shall submit a revised plan to the Regulator.

7.19 Notwithstanding the requirements of Condition 11.10 all sampling programmes, results and assessment reports completed in accordance with Conditions 17.15, 7.16 and 7.17 shall be preserved until the permit is surrendered.

Section 8- Maintenance of Control Measures & Abatement Plant

8.1 The Operator shall ensure that a visual inspection of all arrestment plant ductwork is carried out at least once in every three month period under normal operating conditions, for any signs of wear, tear or damage. Any defects shall be repaired as soon as possible to ensure sound operation and prevent emissions. Details of the checks and any repair work shall be recorded in the log book or recording system required by condition 7.9 of this Permit.

8.2 The Operator shall ensure that all abatement and arrestment plant serving emission points is subject to planned preventative maintenance, in accordance with manufacturers' recommendations, to ensure sound operation. Details of the servicing or maintenance shall be recorded in the log book or recording system kept in accordance with condition 7.9 of this Permit.

8.3 Effective preventative maintenance shall be employed on all plant and equipment concerned with the control of emissions to air, land and controlled waters. Essential spares and consumables such as replacement filters, shall be stored on site or be readily available in 24 hours from guaranteed suppliers, in order to rectify break downs rapidly.

8.4 The Operator shall keep a written maintenance programme in relation to permitted pollution control equipment. The programme shall be made available to the Regulator upon request.

8.5 All malfunctions or breakdowns leading to visible or odorous emissions to air, land or groundwaters shall be investigated and rectified immediately. Process operations shall be adjusted until normal operations are restored. Details of the malfunction shall be recorded in the log book or recording system. If an effect on the local community is likely, the Operator shall inform the Regulator within 1 working day.

8.6 Filtration plant shall be inspected at the frequency specified in the Table below;

Table- Filter Plant Inspection Frequency

Filter Cleaning Method	Frequency of Visual Inspection
Fitted with reverse jets	At least once a month
Fitted with mechanical shakers	At least once a week
Requiring manual shaking	Daily inspection or prior to any delivery being made if deliveries are not daily

8.7 External surfaces of the process buildings, ancillary plant and open yards/storage areas shall be inspected at least annually or more frequently if necessary, and cleaned to prevent the accumulation of dusty material. Particular attention shall be paid to roadways, external storage areas and yards. Cleaning operations shall be carried out by methods which minimise emissions of particulate matter to air such as vacuuming or wet sweeping.

8.8 An audit of items of plant, equipment and control measures shall be undertaken. The audit shall identify all plant, equipment and control measures that are critical to prevent, reduce or control emissions from the installation, including but not limited to storage tanks, interceptor, bunding, alarms or warning devices, after burner, ceramic filters, bag filters, magnehelic gauges, concrete hardstanding and continuous monitors

8.9 A preventative maintenance schedule shall be produced for all critical plant and equipment identified from the audit required by condition 8.8.

8.10 For plant and equipment identified in the audit required by condition 8.8, alarms or other warning systems shall be provided to indicate equipment malfunction or breakdown.

8.11 The alarms or warning systems required by condition 8.10 for plant and equipment shall be checked as part of a preventative maintenance schedule and maintained in accordance with manufacturer's instructions. A record of such checks and maintenance shall be noted in the recording system kept in accordance with condition 7.9 of this Permit.

8.12 All site drainage interceptors shall be impermeable and subject to a minimum of an annual visual inspection. Any contamination found shall be removed immediately at the time of inspection.

8.13 All bunds and sumps shall be visually inspected after heavy rainfall or snowfall, and at least twice per year. The contents of bunds and sumps shall be pumped out and any contamination found shall be removed as soon as practicable. Details of the inspection and any remedial work shall be recorded in the recording system kept in accordance with condition 7.9 of this Permit.

8.14 All storage tanks shall be inspected at least once per year for integrity. Details of the inspection and any remedial work shall be recorded in the recording system kept in accordance with condition 7.9 of this Permit

8.15 Records of breakdowns and plant failure shall be kept and analysed in order to identify trends and eliminate common failures. The records shall be made available for inspection by the Regulator on demand.

8.16 The Operator shall ensure that all abatement plant, detection systems, alarms, continuous monitors and protection systems are maintained in good working order in accordance with manufacturer's recommendations.

8.17 The Operator shall ensure that all abatement plant detection systems, alarms, continuous monitors and protection systems are serviced at least once in every 12 month period by a competent person. Details of the maintenance shall be kept on site and made available for inspection by the Regulator.

8.18 The particulate emissions continuous monitors shall each be serviced and calibrated at least once in every 12 month period by a competent person.

Section 9- Chimneys and Process Vents

9.1 Stacks or process vents shall not be fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone which has been fitted to increase the efflux velocity with prior written approval of the Regulator.

9.2 Stack flues and duct work shall be checked and cleaned at least once every six month period in order to prevent an accumulation of materials internally. This shall be written into the site Maintenance Programme and a record of the check and clean made shall be recorded in the logbook or recording system required by condition 7.9.

Section 10- Solvent Degreasing

10.1 All surface metal cleaning activities using solvents shall only take place inside the hermetically sealed, vacuum solvent cleaning machine which shall be operated and maintained in accordance with manufacturer's instructions.

10.2 A fugitive emission limit value from surface cleaning activities of 15% of the total solvent input shall apply.

10.3 The Operator shall ensure that a detailed inventory of organic solvent usage is kept. The organic solvent inventory shall include the total mass of organic solvent inputs minus any solvents sent for reuse/recycling or recovery off site. The Operator shall consider the degreasing solvent usage in the vapour degreasing machine. The inventory shall also include all solvents removed from the site as waste and any quantities recovered for reuse. A six month summary of the inventory shall be forwarded in writing to the Regulator within one month of the closing date to which the summary inventory relates. The next inventory shall be submitted by 14th January 2023.

10.4 In order to determine compliance or otherwise with the 15% of the total solvent input fugitive emission limit laid down in condition 10.2, fugitive emissions shall be calculated as part of the Solvent Management Plan and submitted as part of that Plan as required by condition 10.10. Details of the Solvent Management Plan calculation are available in Schedule 6.

10.5 The Operator shall monitor the concentration of VOC's around the machine on a weekly basis and keep a record of the results.

10.6 The monitoring of the VOC's around the machine shall be undertaken using a calibrated suitable device.

10.7 In case of emissions of solvent that cause immediate danger to human health, the permitted process shall be suspended immediately. All of following criteria shall be taken into account:

- the toxicity of the substances being released;
- the amount released;
- the location of the installation; and
- the sensitivity of the receptors

10.8 The Operator shall keep records of any tests, inspections and abnormal emissions in accordance with condition 7.9 of this permit.

10.9 The Operator shall calculate the annual consumption of cleaning solvent and produce and submit a Solvent Management Plan to the Regulator on an annual basis by January 14th each year. The next solvent consumption data and Solvent Management Plan are to be submitted by 14th January 2023.

10.10 . The Solvent Management Plan shall be reviewed at least annually. Review records and updates to the Solvent Management Plan shall be forwarded to the Regulator annually.

10.11 The Solvent Management Plan shall be written having regard to the method given in Process Guidance PG6/45 on Surface Cleaning, as reproduced in Schedule 6.

10.12 The Operator shall submit details for approval to the Regulator of any proposal in relation to any of the following activities:

- Replacement of low or no VOC solvent degreasing systems with conventional high VOC content degreasing systems;
- Introduction of conventional high VOC content degreasing systems into the process;
- Introduction of conventional high VOC content degreasing systems onto products where it was not previously used;
- Introduction of designated hazard statement substances H340, H350, H350i, H360D, H360F, H341 or H351.

10.13 All solvents shall be stored in bunded sealed drums. Storage of solvents shall be in accordance with the advice in the relevant chemical data sheet.

10.14 The degreasing machine shall be totally enclosed during production runs. The charging and emptying of the machines shall be from bunded sealed drums or IBC's with suitable hermetic adaptions to ensure seal, either via vacuum or by pump method and the system shall be a totally contained emission free transfer system.

10.15 The location of the solvent degreasing unit shall, as far as reasonably practicable, be free from draughts to reduce losses through air turbulence. The area shall also be free from naked flames and hot surfaces.

10.16 The baskets used for loading shall be designed to enhance the cleaning efficiency, whilst also minimising the retention of organic solvent and vapours with each load cleaned. The basket shall be loaded to its maximum capacity whilst ensuring that the orientation and packing of the materials is optimised to reduce possible retention and drag of organic solvent.

10.17 The programming and loading of work into vapour degreasing machine shall be controlled, monitored and reviewed to ensure that the number of surface cleaning operations is minimised.

10.18 In cases where the degreasing machine is expected to be unused for a period of 30 minutes or more, the unit shall be switched into a 'standby mode' where the vacuum is intact but the heating systems are not operational.

10.19 Cleaning operations involving organic solvents shall be periodically reviewed, at least once every 2 years, to identify opportunities for reducing VOC emissions. The Operator shall provide the Regulator with a copy of this review in a report. The first of these reports shall be submitted by 14th January 2024.

10.20 All organic solvent contaminated materials, for example, rags or overalls impregnated with solvents, used spill kits, shall be stored in suitable containers prior to removal from site.

10.21 Containers for storing solvent contaminated materials shall be metal and shall be fitted with self-closing lids.

10.22 All spillages of organic solvents shall be cleared immediately. Depending on the size of the spill, this may be by cloth or suction pump into a sealed container. Any solvent contaminated cloths shall be placed in a sealed container. Details of spillages including reasons, quantities, and remedial and preventative actions shall be recorded in accordance with condition 7.9 of this permit.

10.23 The dirty solvent storage tank, which moves liquid to the boiler and condensers for cleaning, shall have a high level alarm to control the volume of the tank.

10.24 All bunding shall be impervious and resistant to the liquids in storage and be capable of holding 110% of the capacity of the largest storage container.

10.25 Empty drums or containers contaminated with organic solvent residues shall be closed or lidded to minimise emissions.

10.26 All reasonably practicable effort shall be made to minimise the amount of residual organic solvent bearing material left in drums or other containers after use.

10.27 The door interlocks to the solvent degreasing machine shall only be released when the solvent concentration within the chamber drops to 1mg/m^3 or less.

10.28 When the door of the degreasing machine opens, the chamber fan shall draw air into the system and minimise fugitive emissions.

10.29 Regular cleaning cycles of the solvent degreasing machine shall be automated. Other cleaning activities shall be undertaken when the machine is cold.

10.30 No other solvent shall be used for cleaning other than the solvent detailed in the commercially sensitive permit application, unless agreed in writing by the Regulator.

Section 11- Records, Management and Training

11.1 The Operator shall manage and operate the activities in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the Operator as a result of complaints, using sufficient competent persons and resources.

11.2 Records demonstrating compliance with condition 11.1 shall be maintained.

11.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept near the place where those duties are carried out

11.4 The Operator shall ensure that a competent person is available at all times for liaison with the Regulator

11.5 The Operator shall adopt, implement and maintain an appropriate Environmental Management System to assist with compliance with this Permit. As a minimum, it shall address:

- Defined responsibilities;
- Environmental policy;
- Environmental objectives and targets linked to activities that have the potential to impact on the environment;
- Environmental targets;
- Communications and training;
- Audits;
- Procurement procedures;
- Design and implementation of capital projects;
- Contractors etc. working on site;
- Responding to problems;
- Environmental stewardship as an integral part of the business planning process;
- Record keeping;
- Includes a commitment to continual environmental improvement and prevention of pollution;
- Includes a commitment to comply with relevant legislation and other requirements to which the organisation subscribes;
- Identifies, sets, monitors and reviews environmental objectives and key performance indicators independently of the Permit.

11.6 A documented audit of key skills and competencies in respect of pollution control measures shall be maintained and submitted to the Regulator within 6 months of the date of issue of this Permit. The audit shall include contractors and those responsible for procuring equipment and materials where appropriate. The audit shall identify all key posts and the level of training that is required to ensure:

- Awareness of the regulatory implications of the Permit;
- Awareness of the potential environmental impacts under normal and abnormal circumstances;
- Awareness of the procedures for dealing with a breach of the Permit conditions;
- Prevention of accidental emissions and action to be taken when accidental emissions occur;
- Awareness of all operating procedures;
- Record keeping pertaining to maintenance, inspections and defects.

11.7 The documentation specified in Condition 11.6 of this Permit shall be updated following a change of personnel or modification of the process within 14 days.

11.8 Staff at all levels shall receive training and instructions necessary for their duties and shall include the following:

- Responsibilities under the Permit;
- Minimisation of emissions;
- Actions during abnormal emissions, incidents or spillages.

11.9 The Operator shall keep and maintain a statement of training requirements for each operational post and keep a record of the training received by each employee whose actions may have an impact on emissions. These documents shall be made available to the Regulator on request.

11.10 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the permitted process shall:-

a) be made available for inspection by the Regulator at any reasonable time;
b) be supplied to the Regulator on demand and without charge;
c) be legible;
d) be made as soon as reasonably practicable;
e) indicate any amendments which have been made and shall include the original record wherever possible, and;
f) be retained at the Permitted installation, or other location agreed by the Regulator in writing, for a minimum period of 2 years from the date when the records were made, unless otherwise agreed in writing.

Section 12 – Accidents and Incidents

12.1 The Operator shall maintain a written Accident and Incident Management Plan that identifies hazards, assesses the risks and identifies the measures required to reduce the risks of any potential events or failures that might lead to an environmental impact. The plan shall include written procedures for investigating accidents and near misses and also identify:

- The actions to be taken to prevent and minimise these potential occurrences; and
- The actions necessary to deal with such occurrences so as to limit their consequences.

A copy of the plan shall be submitted to the Regulator upon request.

12.2 Changes made to the Accident and Incident Management Plan shall be submitted to the Regulator with 14 days of making the change.

12.3 The Operator shall provide safe storage and conveying systems for both solids and liquids in order to prevent accidental damage.

12.4 The Operator shall use safe systems for the processing and storage of materials in order to minimise the risk of fire or explosion.

Section 13 – Raw Materials

13.1 The Operator shall;

- take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- maintain records of raw materials and water used in the activities;
- review and record at least every 4 years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use;
- take any further appropriate measures identified by a review.

13.2 The Operator shall maintain an inventory and undertake a review of the principal raw materials used with the main potential for environmental impact. Annually, the Operator shall review alternatives for the principal raw materials used. A copy of the report shall be submitted to the Regulator within 8 weeks of its completion.

13.3 The Operator shall maintain quality procedures to control the specification of raw materials in order to minimise any potential environmental impact. The procedures shall be reviewed annually and updated as appropriate, and provided to the Regulator upon request.

13.4 Feed to furnaces shall be weighed and metered as appropriate and quantities recorded. These records shall be kept for a minimum of 2 years and be made available to the Regulator upon request.

Section 14 - Water Efficiency

14.1 The Operator shall conduct a water efficiency audit. Using information from the audit, usage benchmarks shall be established. Opportunities for water use reduction shall be assessed and implemented in accordance with a timescale agreed with the Regulator. The audit shall be repeated at least every 4 years.

14.2 The volume of mains and abstracted water used in the activities shall be directly measured when the installation is operating, once a day for at least 2 weeks and thereafter, once a week with an annual exercise taking daily measurements for at least 2 weeks. All measurements shall be recorded and the records submitted to the Regulator within 2 weeks of completion.

Section 15 – Energy Efficiency

15.1 The Operator shall;

- take appropriate measures to ensure that energy is used efficiently in the activities;
- review and record at least every 4 years whether there are suitable opportunities to improve the energy efficiency of the activities; and

take further appropriate measures identified by a review.

15.2 The Operator shall ensure that all plant is operated and maintained to optimise the use of and minimise the loss of energy. All plant shall be operated and maintained in accordance with the manufacturer's instructions.

15.3 The Operator shall produce and submit an annual report to the Regulator on the energy consumption of the installation, by 1st July 2022, and annually thereafter.

15.4 The Operator shall target areas for energy reduction and employ energy efficiency techniques such as;

- Heat recovery
- Minimisation of water use and closed circulating water systems
- Good insulation
- Reducing pumping distances
- Phase optimisation of electronic control motors and fans
- Preventative maintenance programme targeting energy drops.

Section 16 – Waste and Waste Minimisation

16.1 The Operator shall take appropriate measures to ensure that;

- the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities;
- any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive;
- where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

16.2 The Operator shall review and record at least every 4 years whether changes to those measures required by condition 16.1 should be made and take any further appropriate measures identified by a review.

16.3 The Operator shall manage and operate the waste handling activities;

- In accordance with a written Waste Management System that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the Operator as a result of complaints; and
- Using sufficient competent persons and resources.

16.4 Non-hazardous wastes shall be stored for no longer than 1 year.

16.5 Hazardous wastes shall be stored for no longer than 6 months.

16.6 Waste shall only be accepted if;

- It is of a type and quantity listed in Table 6;
- It conforms to the description in the documentation supplied by the producer and holder.

16.7 The Operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste;

- The nature of the process producing the waste;
- The composition of the waste;
- The handling requirements of the waste;
- The hazardous property associated with the waste, if applicable;
- The waste code of the waste (EWC).

- 16.8 The Operator shall undertake a Waste Minimisation Audit. The audit shall include, but not be limited to:
- Process flow maps and fates of materials;
- Monitoring and reporting of usage and waste generated against benchmark criteria;
- Active participation of staff;
- Waste prevention; and
- Mass balance studies.

The results of the audit shall be submitted to the Regulator within 8 weeks of its completion, and a Waste Minimisation Plan agreed for the implementation of any recommendations. The audit required by this condition shall be repeated at least every 4 years.

Table 6 Waste Types and Quantities

12	**Waste from Shaping and Physical and Mechanical Surface Treatment of Metals and Plastics**
12 01	**Wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 03	Non-ferrous metals filings and turnings
12 01 01	Ferrous metal filings and turnings
16	**Wastes not otherwise specified in the list**
16 01	**End-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)**
16 01 17	Ferrous metal
16 01 18	Non-ferrous metal
17	**Construction and Demolition Wastes (Including excavated soil from Contaminated Sites)**
17 04	**Metals (including their alloys)**
17 04 01	Copper, bronze, brass
17 04 02	Aluminium
17 04 03	Lead
17 04 04	Zinc
17 04 05	Iron and steel
17 04 06	Tin
17 04 07	Mixed metals
19	**Wastes from Waste Management Facilities, Off-Site Waste Water Treatment Plants and the Preparation of Water for Human Consumption and Water for Industrial Use**
19 10	**Wastes from shredding of metal-containing wastes**
19 10 01	Iron and steel waste
19 10 02	Non-ferrous waste
19 12	**Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 02	Ferrous metal
19 12 03	Non-ferrous metal
20	**Municipal Wastes (Household Waste and Similar Commercial, Industrial and Institutional Wastes) Including separately Collected Fractions**
20 01	Separately collected fractions (except 15 01)
20 01 40	Metals

16.9 All waste storage areas shall be clearly marked. Waste containers shall be clearly labelled. Containers shall be durable for the substances stored. Incompatible wastes shall be segregated and stored separately.

16.10 The Operator shall ensure that all appropriate precautions are in place to prevent materials from wind whipping.

16.11 The Operator shall keep detailed records of the quantity, nature (including hazardous properties (hazard statements), origin, handling precautions, the destination, frequency of collection, mode of transport and treatment method of any waste which is disposed of or recovered. Records shall be kept on site for a minimum of 4 years and made available for inspection by the Regulator on request.

16.12 For all wastes received at or produced by the Permitted installation, the Operator shall record the following;

- The composition or description of the waste including EWC;
- The best estimate of the quantity produced;
- Disposal routes for the waste; and
- The best estimate of the quantity sent for recovery.

16.13 Hazardous waste dusts shall be stored under cover in a designated area.

16.14 Labels on hazardous waste containers shall display the date of production of the waste and a description of the waste.

Section 17 – Noise and Vibration

17.1 Any plant or equipment brought into the installation, or any plant or equipment that undergoes modification, shall be demonstrated to comply with the Best Available Techniques (BAT) to the satisfaction of the Regulator. If it is not possible to demonstrate that the new plant or equipment is BAT then suitable attenuation measures shall be agreed with the Regulator and implemented.

17.2 Unless already meeting BAT requirements, the Operator shall demonstrate that sound power levels for substantially changed plant or equipment shall be lower than for existing when operating under normal parameters. The procedure listed in condition 16.3 shall be used. If it is not possible to demonstrate this then suitable attenuation shall be agreed in writing with the Regulator.

17.3 No new plant or equipment shall be Permitted within the installation except where:

(i) The plant or equipment can be demonstrated to have a minimal environmental impact. For the purpose of this condition 'minimal' shall be taken to mean that the plant or equipment, if monitored under the requirements of BS4142:2014, is unlikely to attract complaints.

OR

(ii) If the above plant/equipment does not satisfy the BAT criteria as described in 17.3(i) above, then attenuation measures shall be taken by the Operator, in agreement with the Regulator in order to satisfy 16.3(i).

17.4 In the event of the Regulator receiving a complaint of noise associated with any element or activity within the installation boundary, the Operator shall investigate the source of the complaint, and carry out such monitoring, surveys or modelling of the source of the complaint to demonstrate, to the satisfaction of the Regulator, either that the complaint is unfounded, or that the complaint is justified.

17.5 Where a noise complaint is found to be justified, the Operator shall arrange to carry out such works or change procedures or processes in such a way, that a re-assessment carried out in accordance with condition 16.4 above concludes that the remedial measures are successful and the noise is no longer the cause of justified complaint.

17.6 In the case of the Operator receiving a complaint directly, the company shall notify the Regulator by 17:00 hours the next working day, providing full details of the complaint and indicating the actions to be taken to investigate and resolve the complaint.

17.7 The crushing and sieving plant shall be mounted on anti vibration mounts.

17.8 The building housing the crushing plant shall be well maintained in order to maintain the sound insulating properties.

17.9 Crushing and screening activities shall only occur with the doors to the building housing the process closed.

Section 18- General Conditions

18.1 The Operator shall notify the following to the Regulator, in writing, within 14 days of their occurrence:-

- Any change in the trading name, registered name or registered office address;
- A change to any particulars of any ultimate holding company (including details of an ultimate holding company where the company has become a subsidiary);
- Any steps taken with a view to going into administration, entering into a company voluntary arrangement or being wound up.

18.2 The Operator shall notify the Regulator **without delay** of:-

a) The detection of an emission of any substance, which exceeds any limit or criterion in this Permit, specified in relation to the substance;
b) The detection of any fugitive emission that has caused, is causing or may cause significant pollution, unless the quantity emitted is so trivial that it would be incapable of causing significant pollution;
c) The detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution;
d) Any accident, which has caused, is causing or has the potential to cause significant air pollution.

18.3 The Operator shall give written notification to the Regulator in the following instances;

a) Permanent cessation of the operation of any part of, or all of the Permitted Installation;
b) Cessation of the operation of any part of, or all of the Permitted Installation for a period, likely to exceed 1 year;
c) Resumption of the operation of any part of, or all of the permitted installation after a cessation notified under (b) above.

18.4 All reports and notifications required by this Permit, or under any Regulation under the Environmental Permitting Regulations 2016, as amended, shall be sent to the Regulator. Unless notified in writing, all reports, notifications and communications in respect of this Permit shall be sent to:

epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk or

Sheffield City Council,
Environmental Protection Service,
Floor 5 Howden House
1 Union Street
Sheffield
S1 2SH.

Section 19 – Decommissioning

19.1 A site decommissioning plan shall be submitted to the Regulator within 6 months of the date of this Permit. The plan shall be prepared and updated as necessary due to changes in plant, equipment and materials used at the installation. The plan shall be reviewed and submitted every 3 years from the date of first submission. The plan shall include:

- A complete methodology to be adopted in the decommissioning of the installation to include;
- Removal of plant and machinery;
- Removal of any contamination associated with plant and machinery;
- Minimising any contamination from buildings during demolition;
- Removal of contamination from subsurface infrastructure.

19.2 Prior to site operations ceasing, the Operator shall devise a scheme of works for decommissioning the site and submit to the Regulator for written approval. The site shall not be decommissioned until the scheme has received written approval.

19.3 Prior to cessation of Permitted activities, the Operator shall submit a method statement for intrusive sampling of the site to the Regulator. Once agreed, the Operator shall carry out the intrusive sampling and forward the results within 8 weeks of the sampling to the Regulator. The Operator shall then undertake remediation of the land to an agreed level, within timescales agreed in writing by the Regulator, in order to remove contamination that is attributable to Permitted activities.

END OF CONDITIONS.

Please Note

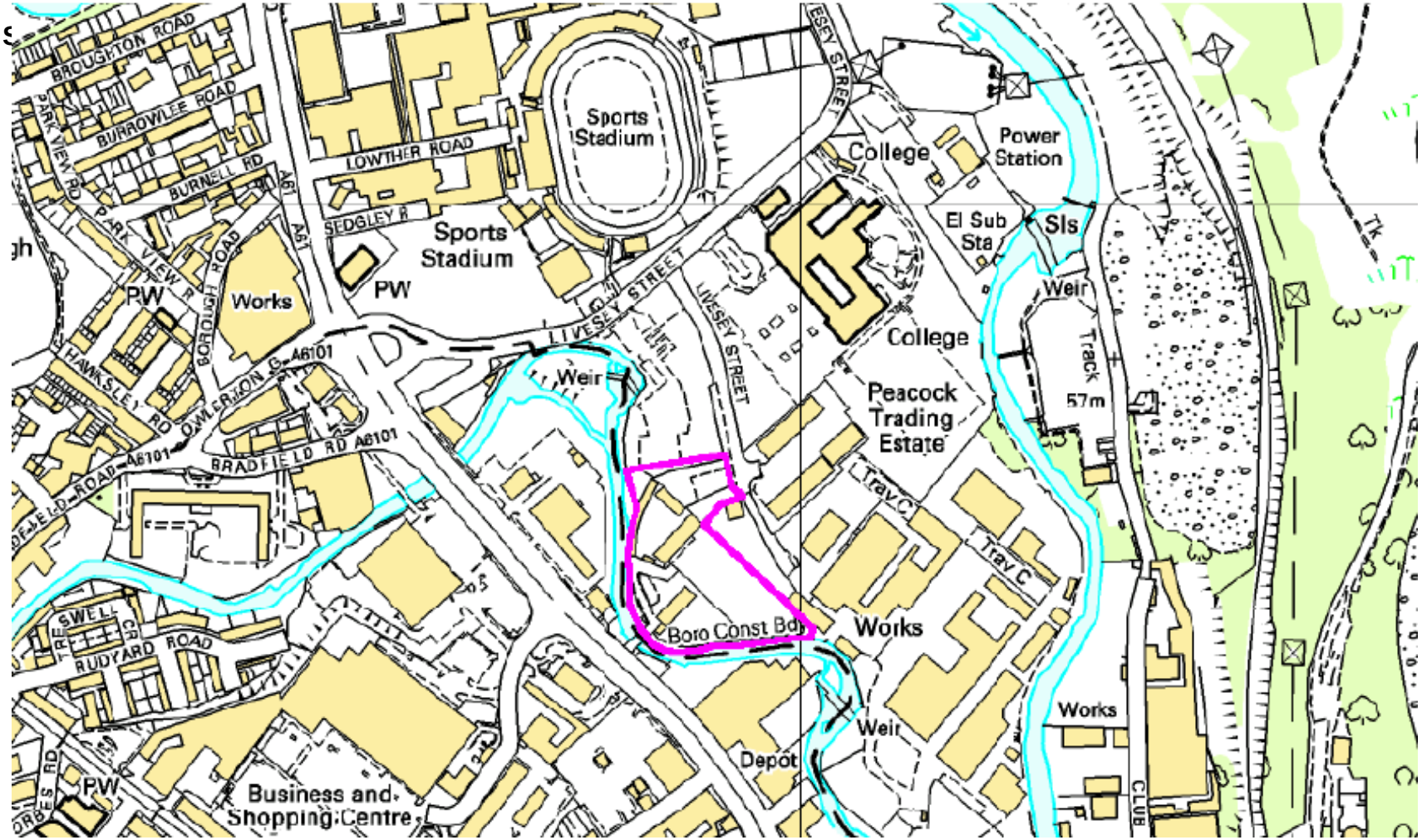
Where complaint is attributable to the operation of the installation and is, in the opinion of the Local Authority, justified, or if new knowledge develops on the potential for harmful effects from emissions, an immediate review of the Permit shall be undertaken. The Local Authority shall subsequently specify any new requirements and compliance time scales.

An annual subsistence fee as prescribed by the Secretary of State for the Environment shall be payable, for this Permit, by the process Operator, to this Authority within 2 weeks of the 1st April of each year.

In the event that the Permit has been issued after the 1st April in the initial year then the subsistence fee shall be pro rata for the complete months remaining and shall be due within 2 weeks of the Permit issue date.

If the relevant payment is not received by the Regulator, Sheffield City Council's Environmental Protection Service, then Permit revocation procedures may be initiated.

Schedule 1- Installation Location

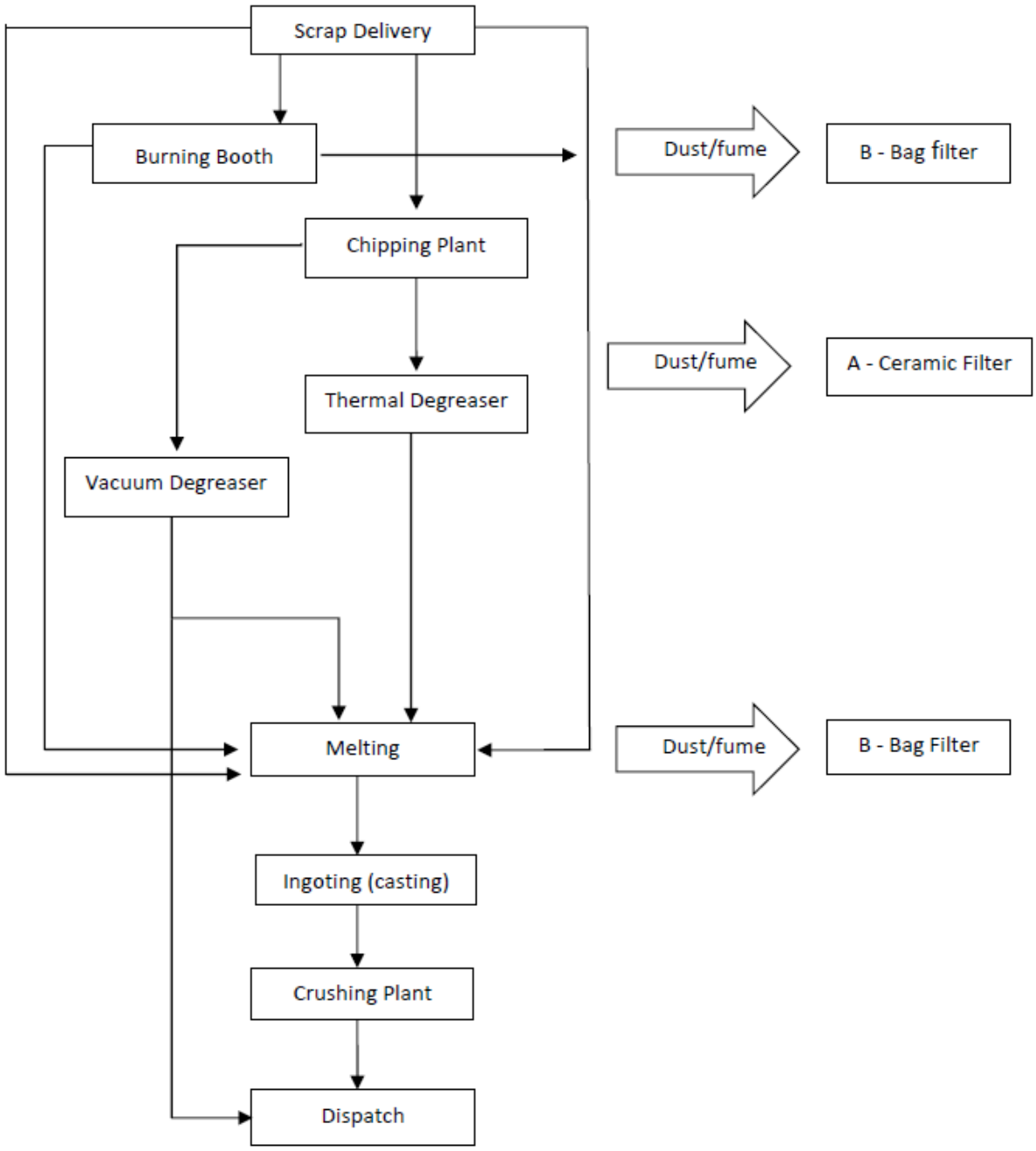


Schedule 2 Installation Boundary Prior to Completion of Flood Protection Works

Schedule 3: Installation Boundary After Completion of Flood Protection Works & Upgrading of Hardstanding in A, Schedule 2

Schedule 4: Schematic Process Flow Diagram

Schematic Process Flow Chart



Schedule 5: Installation Layout

Schedule 6: Solvent Management Plan

Inputs:

How much solvent is:

- bought, whether in pure form or contained in products
- recycled back into the process

Outputs:

How much solvent is:

- emitted to air, whether directly or via abatement equipment;
- discharged to water, whether directly or via water treatment;
- sent away in waste;
- lost by spills, leaks etc;
- leaving the installation in the product.

Inputs of Organic Solvent in the time frame over which the mass balance is being calculated (I)

I1 The quantity of organic solvents or their quantity in mixtures purchased which are used as input into the process/activity

I2 The quantity of organic solvents or their quantity in mixtures recovered and reused as solvent input into the process/activity. (The recycled solvent is counted every time it is used to carry out the activity).

Outputs of Organic Solvents in the time frame over which the mass balance is being calculated (O)

O1 Emissions in waste gases.

O2 Organic solvents lost in water, if appropriate taking into account waste water treatment when calculating O5.

O3 The quantity of organic solvents which remains as contamination or residue in products output from the process/activity.

O4 Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.

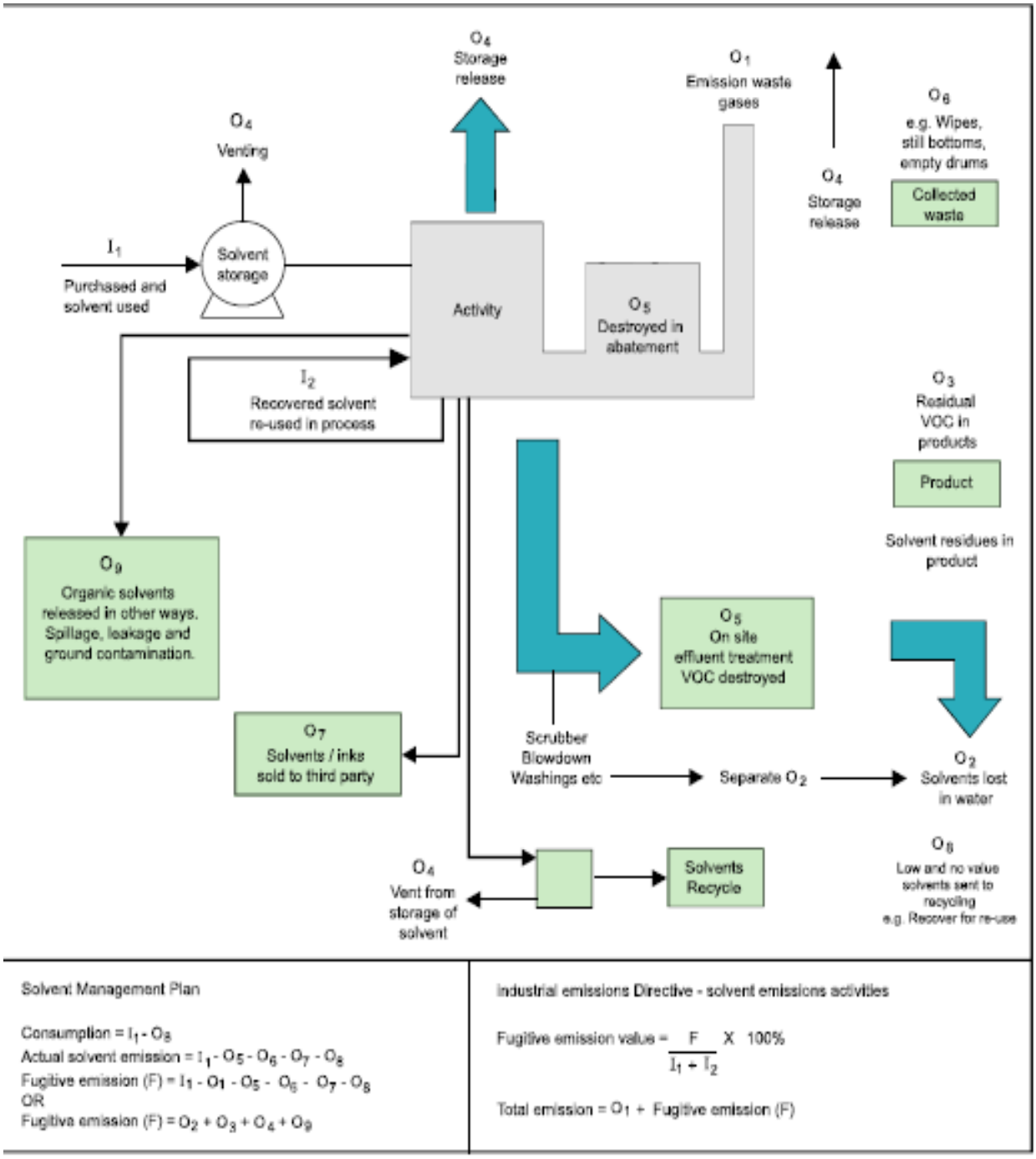
O5 Organic solvents and/or organic compounds lost due to chemical or physical reactions (including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under O6, O7 or O8).

O6 Organic solvents contained in collected waste.

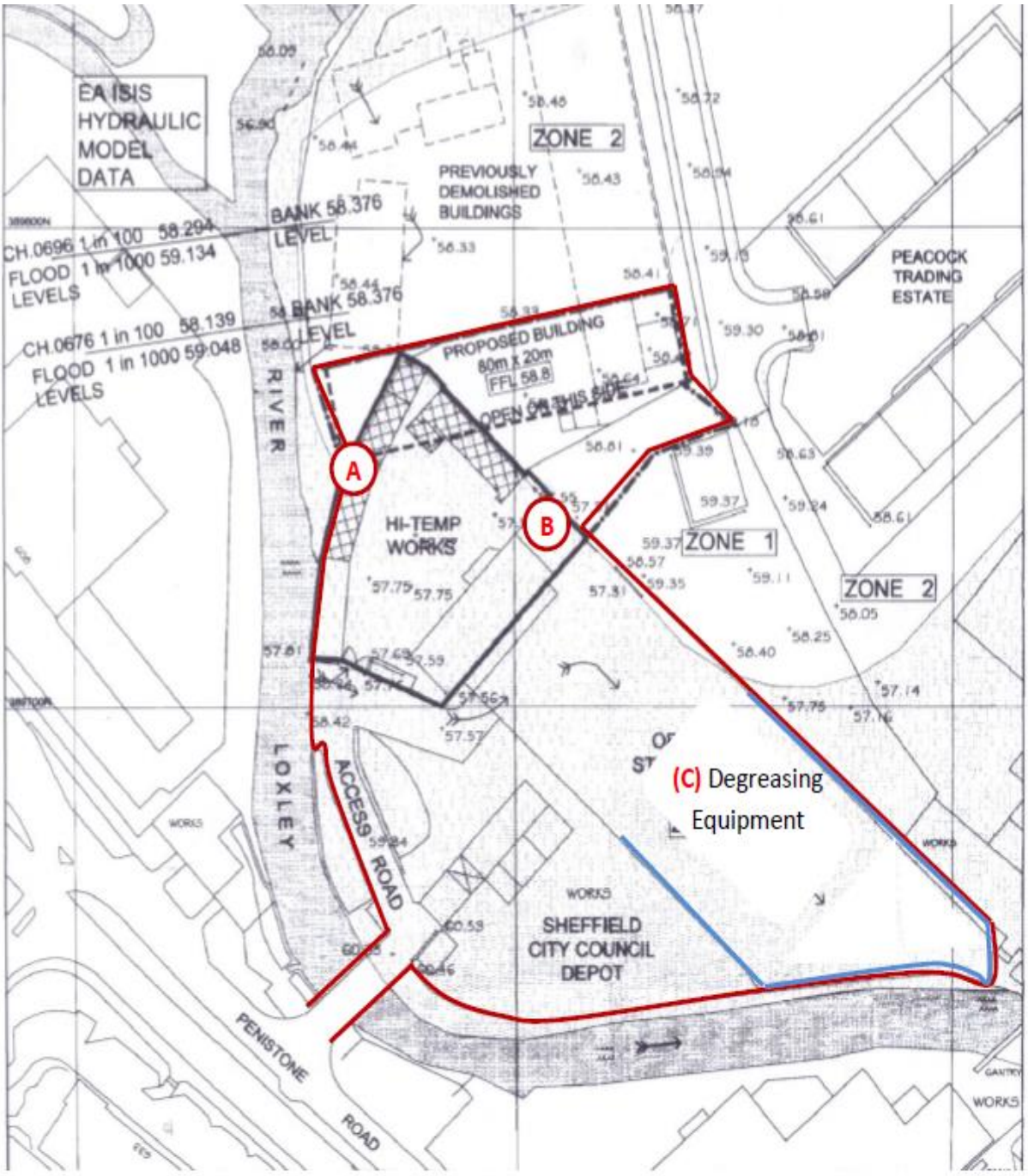
O7 Organic solvents, or organic solvents contained in mixtures, which are sold or are intended to be sold as a commercially valuable product.

O8 Organic solvents contained in mixtures recovered for reuse but not as input into the process/activity, as long as not counted under O7.

O9 Organic solvents released in other ways.



Schedule 7: Installation Emissions Points



A	Emission Point Source
B	Emission Point Source
C	Degreasing Equipment

Schedule 8: Drainage Plan