Written by

In partnership with

Fire Prevention Plan (FPP)

Household, commercial and industrial waste transfer station

Unit 19 Bakers Park,

Cater Road,

Bishopsworth,

Bristol,

BS13 7TT

Document Title	Fire Prevention Plan
Revision	4.0
Date	30-09-24
Document Reference	ETM Caters Road FPP 30-09-24
Prepared For	ETM Recycling Ltd
Authored By	MTS Environmental Ltd

Quality Control

Revision No.	Date Revised	Amendments	Authored By	Sign Off	Approved By	Sign Off
1.0	09/05/23	Original Draft	Shawn Almeida		Luke Bridges	
2.0	24/05/23	Small updates for final issue for permit variation	Kasia Haywood		Luke Bridges	
3.0	31/03/24	Amendments based on EA discussions	Leonie Horwood		Luke Bridges	
4.0	30-09-24	Updates based on planning	Shawn Almeida		Luke Bridges	

Contents

Appendices 5
1. Introduction 6
1.1 Fire prevention plan and objectives 6
2. Scope 6
3. References 6
4. Using This Fire Prevention Plan 7
4.1 Where the plan is kept and how staff know how to use it 7
4.1 Testing the plan and staff training 7
5 Site Details 7
5.2 Site Location 7
5.3 Permitted Area 9
5.4 Permitted Operations on Site 9
5.5 Permitted Wastes on Site 9
5.6 Site Layout 11
5.7 Waste acceptance and handling facilities 13
6 Combustible Materials 13
6.1 Permitted Waste Types 13
6.2 Permitted Activities on Site 14
7 Sensitive Receptors 15
7.1 Sensitive Receptors 15
8 Common Causes of Fire 19
8.1 Arson and Vandalism 19
8.2 Plant and Equipment 20
8.3 Electrical Faults 20
8.4 Discarded Smoking Materials 20
8.5 Hot Works Safe Working Procedures 20
8.6 Hot Exhausts and Engine Parts 20
8.7 Industrial Heaters 20
8.8 Ignition Sources 20
8.9 Batteries 20
8.10 Leaks and spillages of oils and fuels 20
8.11 Build-up of loose combustible waste, dust and fluff 21
8.12 Reactions between wastes 21
8.13 Waste acceptance and deposited hot loads 21

8.14 Hot and dry weather 21
8.15 Prevent self-combustion 21
9 Fire Prevention Measures 22
9.1 Equipment Fault Prevention 22
9.2 Storage Time 22
9.3 Temperature monitoring 22
9.4 Waste Bale Storage 22
10 Management of Stockpiles 23
10.1 Maximum Stockpile Sizes 23
10.2 Waste stored in Containers 24
11 Prevention of Fire Spreading 25
11.1 Fire Drills 25
11.2 Fire Extinguishers 25
11.3 Fire Walls and Bays 25
11.4 Separation Distances 25
11.5 Quarantine 25
12 Detection of Fires 25
12.1 Fire Detection 25
13 Suppression of Fires & Firefighting Techniques 26
13.1 Systems 26
13.2 Access for Emergency Services 26
13.3 Notifying nearby properties 26
14 Water Supplies 26
14.1 Water Supply 26
15 Managing Fire Water 27
15.1 Drainage System 27
15.2 Risks to Groundwater 27
16 During and after an Incident 27
16.1 During a Fire 27
16.2 Emissions to air 27
16.3 Emissions to Land 28
16.4 After an Incident 28
16.5 Post Fire Site Recovery 28
17 Summary 28

Appendices

Appendix A – Site Layout Plan

Appendix B – Environmental Risk Assessment

1. Introduction

1.1 Fire prevention plan and objectives

1.1.1 This Fire Prevention Plan (FPP) has been prepared by MTS Environmental Ltd for ETM Recycling Ltd (ETM) in accordance with Environment Agency guidance.[1] This plan addresses the impact of fire and details the control measures implemented by ETM Recycling Ltd at their Bakers Park, Caters Road site to mitigate this risk.

1.1.2 The FPP addresses the impact of fire and the specific control measures required to mitigate the risk. These prevention measures will be implemented by the Site Manager, to ensure that risk of fire is minimised and does not affect the nearby receptors.

1.1.3 The purpose of this plan is to minimise the likelihood of a fire happening at the ETM Bakers Park site. This plan meets the objectives of the Environment Agency's Fire Prevention Plan Guidance as it identifies the site operations that present a risk of fire and details prevention techniques and measures:

- To minimise the potential for a fire
- To control and extinguish any fire within 4 hours of it starting
- To control the spread of the fire to protect the site and neighbouring areas

1.1.4 This FPP will be implemented on site to ensure it operates in accordance with:

- Integrated Pollution Prevention and Control (IPPC)
- Best Available Techniques (BAT)
- Chemical waste: appropriate measures for permitted wastes

1.1.5 The fire management hierarchy for control should be to:

- Prevent generation of fire at source by good design and maintenance.
- Minimise or contain noise at source by observing good operational techniques and management practice.
- Use physical barriers or enclosures to prevent transmission to other media.
- Increase the distance between the source and receiver.
- Sympathetic timing and control of unavoidably noisy operations.

1.1.6 This Fire Prevention Plan will form part of the Environmental Management System (EMS) for the site. This FPP will be kept onsite.

2. Scope

This plan applies to the storage of any amount of combustible waste at the ETM Recycling site at Bakers Park. It does not apply to hazardous wastes as no hazardous waste are accepted on site.

3. References

- Fire Prevention Plans: Environmental Permits https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits [used in conjunction with *Fire prevention plan consultation: summary of consultation responses and decisions, and Appendix 1: review of guidance and test results*.]
- Chemical waste: Appropriate measures for permitted facilities

https://www.gov.uk/guidance/chemical-waste-appropriate-measures-for-permittedfacilities

4. Using This Fire Prevention Plan

4.1 Where the plan is kept and how staff know how to use it

4.2.1 ETM Recycling will inform all site staff during induction training and regular fire drill exercises of the location of the fire prevention plan so that it is always easily accessible, including during a fire event. A copy of the Fire Prevention Plan will be kept in the Main Office and a second copy will be held in the Amenity Cabin for easy access by operatives.

4.1 Testing the plan and staff training

4.2.2 All site staff and contractors working onsite will be expected to view the contents of this Fire Prevention Plan so that they know what they must do to prevent a fire occurring and how to react if a fire breaks out. To do this, ETM conducts exercises every month to test how well the plan works and to ensure that all staff understand their responsibilities.

4.2.3 All site staff and contractors are trained in safety, fire prevention and firefighting procedures during induction and routine safety and fire prevention awareness training depending on their work activities onsite.

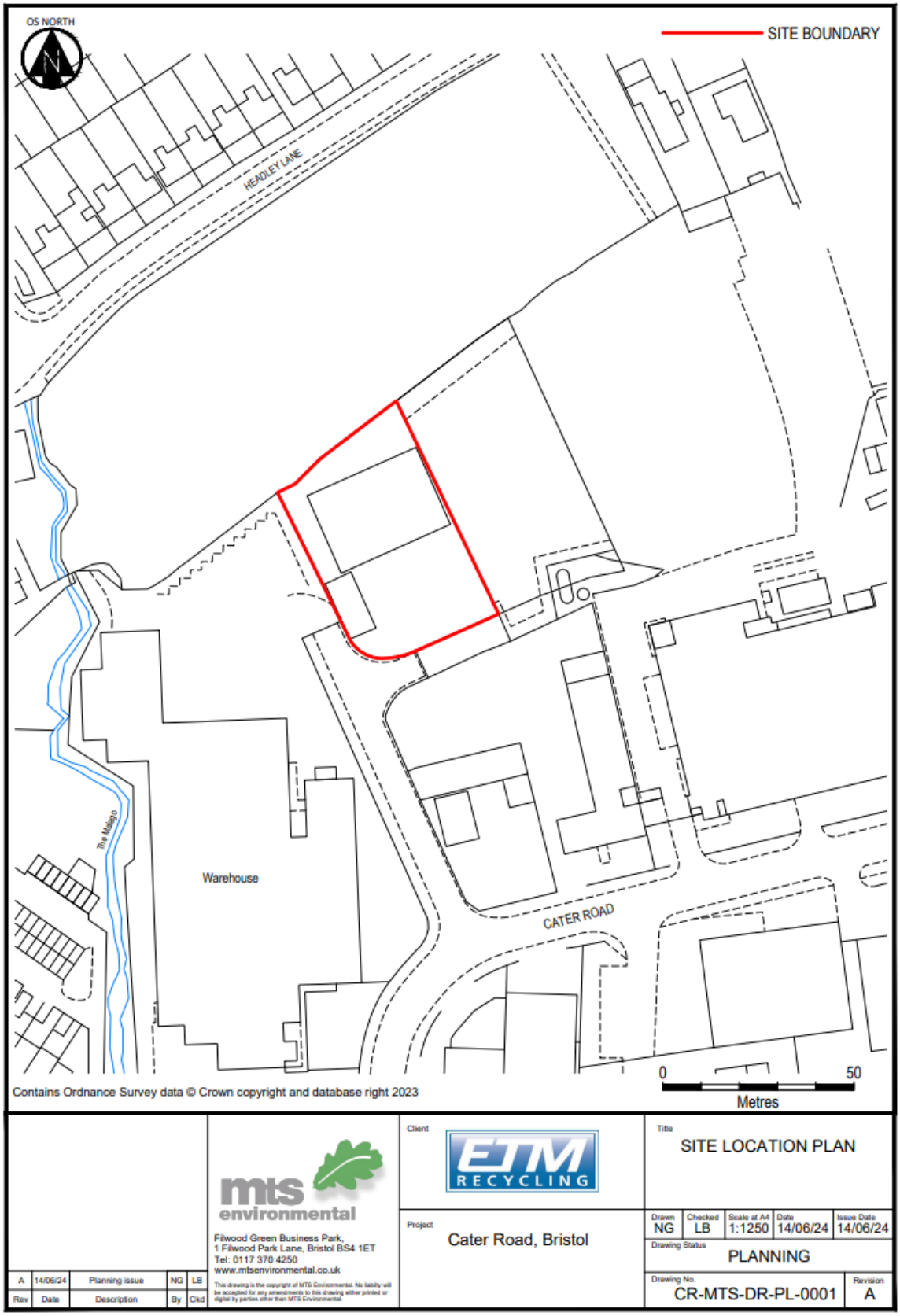
4.2.4 Fire and evacuation drills are held at monthly intervals and are co-ordinated by the Site Manager. A training record will be maintained for each member of staff and will be stored in the site office and a designated member of staff will ensure that everyone has received the required induction and training. Each operative will sign and date the Toolbox Talk as confirmation that they have received the training.

5 Site Details

5.2 Site Location

5.2.1 The site is located at Unit 19, Bakers Park, Cater Road, Bishopsworth, Bristol, BS13 7TT (Figure 1). The approximate national grid reference for the site is ST 57464 68764. The site is located on an industrial park alongside multiple other commercial and industrial establishments. The nearest residential building sits ~105m away from the centre of the site.

Figure 1 – Site Location Plan



5.3 Permitted Area

5.3.1 The permit boundary is outlined in red on Figure 1.

5.4 Permitted Operations on Site

5.4.1 Waste operations on site include the following:

- The loading and unloading of waste using mobile equipment
- The handling of waste by hand and grab loaders
- Hand-sorting, shredding and baling of wastes
- Storage of POPs and other wastes
- HGV's and skip vehicle movements

5.5 Permitted Wastes on Site

5.5.1 The site has submitted an application for a variation to the environmental permit (permit number: JP3793FP) for the operation of a household, commercial and industrial waste transfer station (1.16.6) under the Environmental Permitting Regulations 2015.

5.5.2 Permitted wastes on site are detailed in Table 1.

Table 1 – Permitted waste types at Bakers Park

Waste Code	Description
02 01 03	Plat-tissue waste
02 01 04	Waste plastics (except packaging)
03 01 01	Waste bark and cork
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other then those mentioned in 03 01 04
10 11 12	Clean glass other than those mentioned in 10 11 11
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
12 01 01	Ferrous metal filings and turnings
12 01 03	Non-ferrous metal filings and turnings
12 01 05	Plastics shavings and turnings
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging
15 01 04	Metallic packaging
15 01 05	Composite packaging
15 01 06	Mixed packaging
15 01 07	Glass packaging
15 01 09	Textile packaging
16 01 03	End-of-life tyres
16 02 14	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	Components removed from discarded equipment other than those mentioned in 16 02 15
17 01 01	Concrete

17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02 01	Wood
17 02 02	Glass
17 02 03	Plastic
17 04 01	Copper, bronze, brass
17 04 02	Aluminium
17 04 03	Lead
17 04 05	Iron and steel
17 04 07	Mixed metals
17 04 11	Cables other than those mentioned in 17 04 10
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 08 02	Gypsum only other than that mentioned in 17 08 01
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19 12 01	Paper and cardboard
19 12 02	Ferrous metal
19 12 03	Non-ferrous metal
19 12 04	Plastic and rubber
19 12 05	Glass
19 12 07	Wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 10	Combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13 02	Solid waste from soil remediation other than those mentioned in 19 13 01
20 01 01	Paper and cardboard
20 01 02	Glass
20 01 08	Biodegradable kitchen and canteen waste
20 01 10	Clothes
20 01 11	Textiles
20 01 36	Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23, and 20 01 35
20 01 38	Wood other than that mentioned in 20 01 37
20 01 39	Plastics
20 01 40	Metals
20 02 01	Biodegradable waste
20 02 02	Soil and stones
20 03 01	Mixed municipal waste
20 03 07	Bulky waste

5.5.3 Hazardous waste is not permitted at the site and all waste will be managed in accordance with the site-specific Environmental Management System (EMS).

5.5.4 The site operating hours are from 07:00 to 18:00 on Monday-Friday and 07:00 to 13:00 on Saturdays for core operations, waste deliveries and the collection of materials. There is no processing of waste material at the site on Sundays, during the night-time hours or on Public Holidays.

5.5.5 The shredder and baler are situated and operated within the covered building and will be used on a campaign basis only when an appropriate amount of material has built up to justify use of the machine. This will prevent the fire generating equipment from being turned on and off continuously throughout the day and therefore will reduce fire production. The 'on-time' of machines is dependent on the amount of material on site which will be variable.

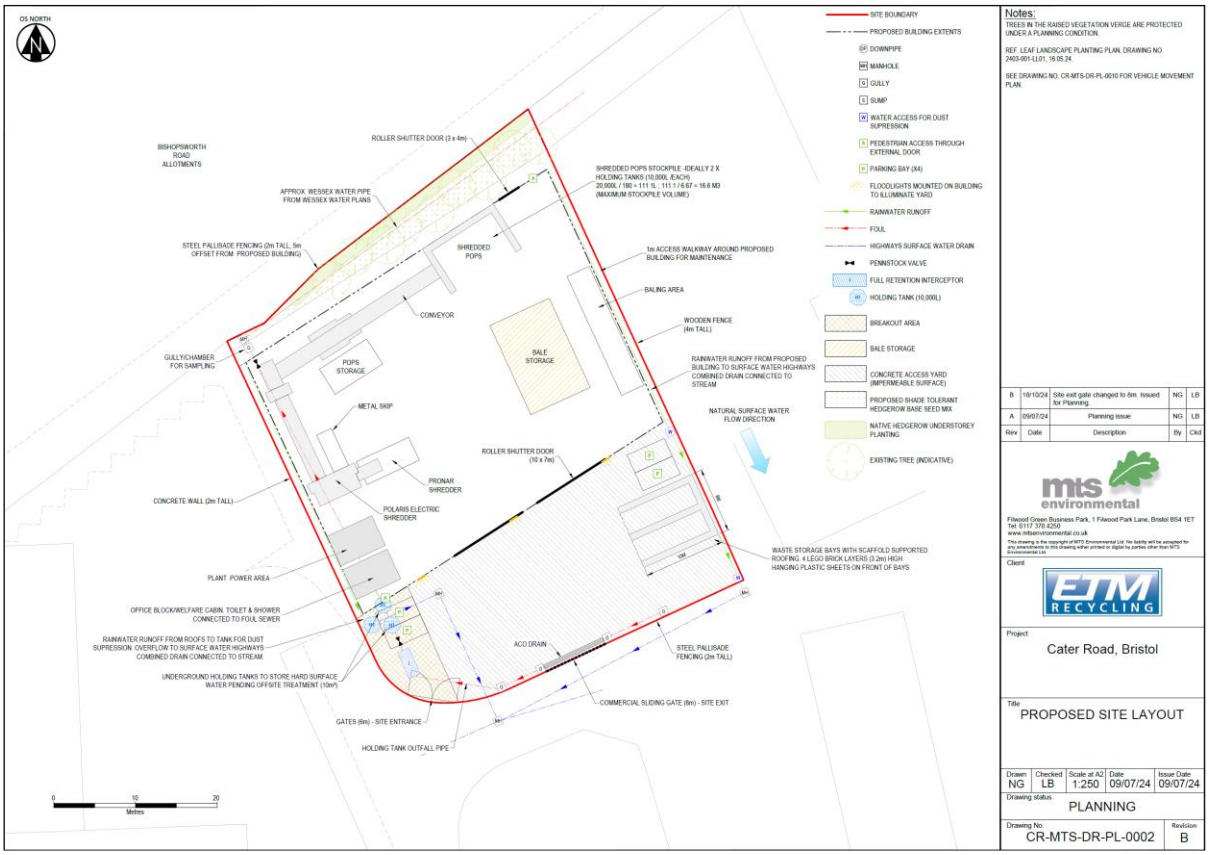
5.5.6 The plant/equipment used onsite in relation to the waste operations on site are listed below. Only trained operatives will be permitted to operate the plant/equipment:

- 1x Wheeled loader (inside the building)
- 1x Mobile Shredder (UNTHA XR3000C) (inside the building)
- 1x Baler (in future, inside the building)
- HGV movements

5.6 Site Layout

5.6.1 A detailed site layout plan is included in Figure 2. The red line indicates the site boundary. The site is split into different areas for safety reasons with clear safe working areas used for processing.

Figure 2 – Site Layout Plan



5.6.2 The site comprises an open yard with a covered building utilised for any processing activities. This building is located in the North of the site so that the north easterly prevailing winds blow any potential fires further into the building and not across the open yard.

5.6.3 The site is surrounded by palisade fencing, established vegetation and other industrial units which act as physical barriers against both noise and dust. There are a number of mature trees that line the site northern boundary.

5.6.4 Vehicles enter through the haul road off Cater Road. Loads are inspected from the office before being accepted on site. Once inspected, wastes are tipped into their corresponding stockpile/storage area.

5.6.5 The office is located in the east of the site, in the main building, to allow observation of the entire site during operations and inspect any incoming loads.

5.6.6 All processing and shredding activities are undertaken inside the enclosed, weatherproof building. Any POPs waste (pre and post shredding) will be stored in covered bays.

5.6.7 The operational area of the site has an impermeable surface with a sealed drainage system that collects all surface water run off via the natural fall of the site which is treated through a full retention interceptor and discharges to foul sewer. Only clean roof water runoff drains

into the highway drain discharging to the Malago. (Details of the drainage system can be found in the site drawings in Appendix A and Figure 2).

5.6.8 The site will operate a wheeled loading shovel, a shredder, baler and water tankers located within the covered building. All processing activities are carried out within the covered building which aids in containing fire on site. Measures outlined in this FPP and the Environmental Risk Assessment (Table A2) will be adhered to during processing activities.

5.6.9 Shredding and baling will be done on a campaign basis once sufficient materials are stockpiled to avoid on-off use and increased fire risk.

5.6.10 The surface of the operational area of the site and enclosed building is impermeable concrete. This creates a smooth surface for vehicles and HGVs to reduce fire from vehicle movements.

5.6.11 The site has designated paths for the entrance/exit of HGVs to move around the site to avoid the vehicles from disrupting and coming into contact with any materials stored on site. The site has been designed to minimise vehicle movements, reducing the risk of accidents on site.

5.6.12 Any sub-contractors hired onto site would be made aware of this FPP and must adhere to the measures outlined in this document and the Environmental Risk Assessment (Appendix B). Fire Prevention controls relating to the specific plant will be measured and controlled in accordance with RAMS documentation.

5.7 Waste acceptance and handling facilities

5.7.1 Strict waste acceptance procedures are in place at the site and a waste transfer note is completed for every load deposited at the site. Further details regarding waste acceptance is included in Section 4.10 of the site-specific Environmental Management System.

5.7.2 Waste deliveries are tipped in the relevant stockpile and are manually inspected and sorted, at this point checks are carried out for combustible materials and the potential for fire.

5.7.3 The site layout plan included in Appendix A shows all areas of the site so any fire outbreak can be easily accessed and extinguished.

6 Combustible Materials

6.1 Permitted Waste Types

6.1.1 All wastes which are permitted on side, including their EWC Codes are listed in Table 1. No other materials will be permitted onto site.

6.1.2 The wastes listed in Table 2 below are regarded as being potentially combustible, the measures outlined in this fire prevention plan will mitigate the risks caused by these materials and detail a response in the event of a fire.

Table 2 - Combustible Waste Types on Site

Waste Code	Description
02 01 04	Waste plastics (except packaging)
03 01 01	Waste bark and cork
12 01 05	Plastics shavings and turnings
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging
15 01 05	Composite packaging
15 01 06	Mixed packaging
15 01 09	Textile packaging
16 01 03	End-of-life tyres
16 02 14	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	Components removed from discarded equipment other than those mentioned in 16 02 15
17 02 01	Wood
17 02 03	Plastic
17 04 11	Cables other than those mentioned in 17 04 10
19 12 01	Paper and cardboard
19 12 04	Plastic and rubber
19 12 07	Wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 10	Combustible Waste (Waste Refuse Fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20 01 01	Paper and cardboard
20 01 10	Clothes
20 01 11	Textiles
20 01 39	Plastics
20 03 07	Bulky waste

6.2 Permitted Activities on Site

Table 3 - Permitted Activities on site

Description of Activities	Limits of Activities
D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced. **D9:** Physico-chemical treatment not specified elsewhere which results in final compounds or mixtures which are discarded by means of any	Treatment consisting only of manual/mechanical sorting, separation, screening, blending, baling, shredding, crushing or compaction of non-hazardous or inert waste into different components for disposal (no more than 50 tonnes per day) or recovery. All wastes shall be treated on an impermeable

of the operations numbered D1 to D12. **R3:** Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) **R4**: Recycling/reclamation of metals and metal compounds. **R5:** Recycling/reclamation of other inorganic materials **R13:** Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where the waste is produced)	surface with sealed drainage. Maximum storage in the building to be limited to 850 tonnes. Maximum storage outside on impermeable surface to be 500 tonnes either in containers or in open bays. There shall be no treatment of WEEE, batteries, cooling equipment or display equipment. Wastes shall be stored for no longer than 1 year prior to disposal or 3 years prior to disposal.

7 Sensitive Receptors

7.1 Sensitive Receptors

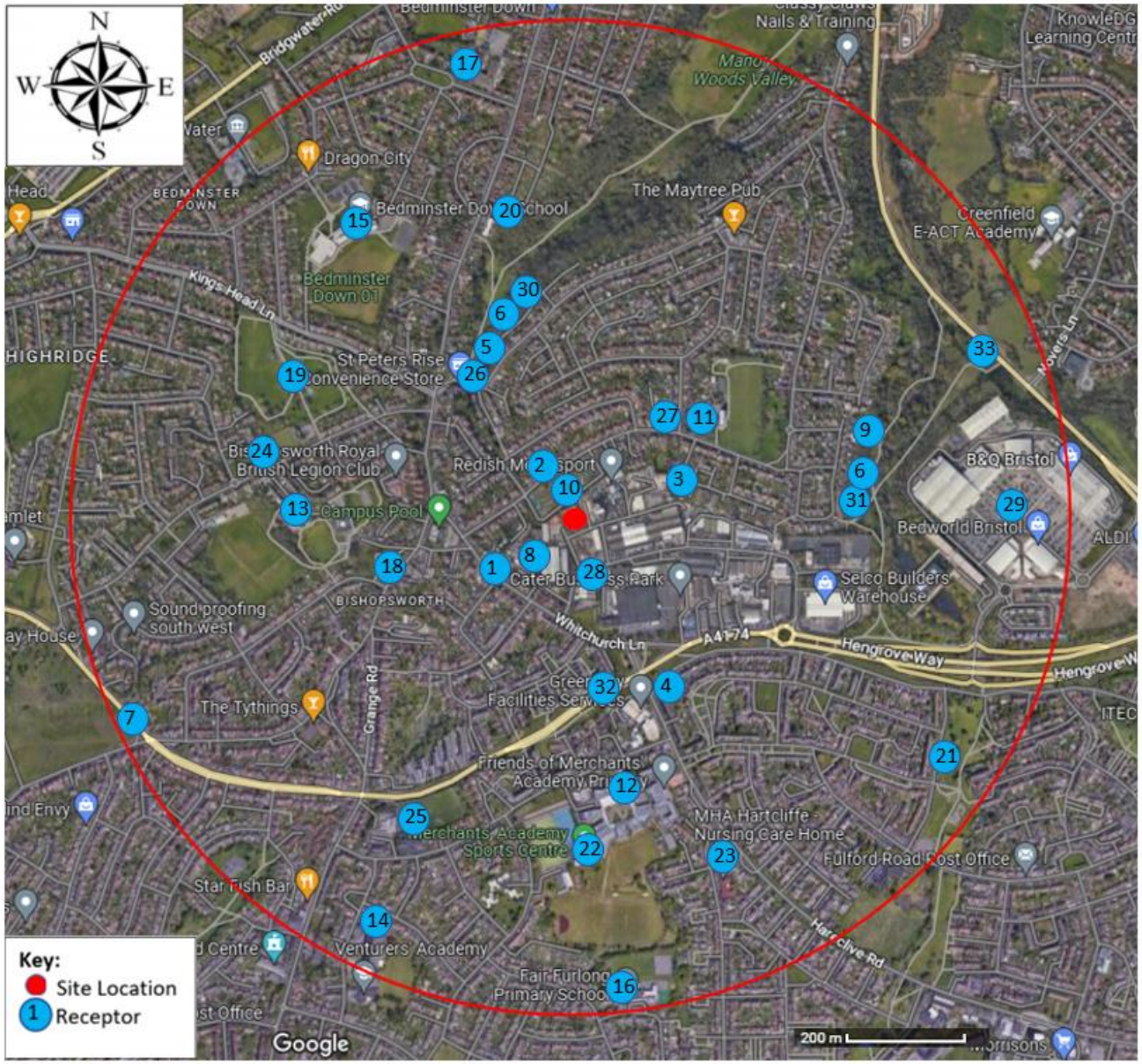
7.1.1 An initial assessment was undertaken by MTS Environmental Ltd to identify all the receptors that are at risk of potential fires generated from the site within a range of 1000m. These are listed in Table 3 below alongside their relative distances from the site, those highlighted in bold are considered sensitive receptors.

7.1.2 A receptor plan detailing the location of the receptors relative to the site is shown in Figure 3. The red line boundary indicates the 1000m threshold area.

Table 3 – Sensitive receptors to Fire within 1000m of the Bakers Park site

Receptor	Distance from site (m)	Direction
Residential		
Properties on Whitchurch Road	165m	West
Properties on Headley Lane	105m	North
Properties on Brookdale Road	225m	East
Properties on Hareclive Road	395m	South
Designated Land and Waterways		
Local Nature Reserve – Manor Woods Valley	400m	North
Priority Habitat Inventory (PHI) – Deciduous Woodland	570m and 400m	East and North
PHI – Good quality semi-improved grassland (Non-priority)	925m	North East
River Malago	85m	West
Pigeonhouse Stream	610m	East
Sensitive Land Uses		
Bishopsworth Road Allotments	40m	North

Headley Park Primary School	310m	North East
Merchants Academy	550m	South
St Peter's Primary School	500m	West
Gay Elms Primary School	950m	South West
Bedminster Down School	715m	North West
Fair Furlong Primary School	960m	South
Cheddar Grove Primary School	915m	North
St Peter's Church	375m	West
Kings Head Lane Park	535m	North West
Allotments	660m	North
Willmott Park	890m	South East
Merchants Academy Sports Centre	680m	South
MHA Hartcliffe Nursing Home	760m	South
Bishopsmead Lodge Care Home	620m	West
Saint Pius X Roman Catholic Church and Primary School	765m	South West
Headley Park Church	340m	North West
Industrial/Commercial		
Headley Park Community Centre	265m	North East
Cater Business Park	0m	South and East
Imperial Park Shopping Centre	710m	East
Surrounding Businesses		All directions
Public Rights of Way		
Public Footpath in Manor Wood	400m	North
Public Footpath in Crox Bottom	590m	East
Infrastructure/utilities		
A4174	335m	South
A3029 Hartcliffe Way	870m	East
Protected Species		
European Eel	Up to 500m	
Groundwater		
The site is not within a source protection zone or drinking water safeguard zone		



ID	Receptor
Residential	
1	Properties on Whitchurch Road
2	Properties on Headley Lane
3	Properties on Brookdale Road
4	Properties on Hareclive Road
Designated Land and Waterways	
5	Local Nature Reserve – Manor Woods Valley
6	Priority Habitat Inventory (PHI) – Deciduous Woodland
7	PHI – Good quality semi-improved grassland (Non-priority)
8	River Malago
9	Pigeonhouse Stream
Sensitive Land Uses	
10	Bishopsworth Road Allotments
11	Headley Park Primary School
12	Merchants Academy
13	St Peter's Primary School
14	Gay Elms Primary School
15	Bedminster Down School
16	Fair Furlong Primary School
17	Cheddar Grove Primary School
18	St Peter's Church
19	Kings Head Lane Park
20	Allotments
21	Willmott Park
22	Merchants Academy Sports Centre
23	MHA Hartcliffe Nursing Home
24	Bishopsmead Lodge Care Home
25	Saint Pius X Roman Catholic Church and Primary School
26	Headley Park Church
Industrial/Commercial	
27	Headley Park Community Centre
28	Cater Business Park
29	Imperial Park Shopping Centre
Public Rights of Way	
30	Public Footpath in Manor Wood
31	Public Footpath in Crox Bottom
Infrastructure/utilities	
32	A4174
33	A3029 Hartcliffe Way

Figure 3 – Sensitive Receptor Plan

7.1.3 Thirty-three receptors are listed on the map, nine of which are sensitive receptors (highlighted in bold in Table 3): properties on Whitchurch Road, Headley Lane, Brookdale Road and Hareclive Road (Receptors 1, 2, 3, 4), River Malago (Receptor 8), Bishopsworth Road Allotments (Receptor 10), Headley Park Primary School (Receptor 11), St Peter's Church (Receptor 18) and Headley Park Church (Receptor 26). The remaining receptors are low sensitivity receptors, all have been added to Figure 2 and the relative distances to the site detailed in Table 1.

7.1.4 Activities listed in 5.4.1 have minimal fire risk which could impair these receptors. However, with the control measures set out in this plan and the Environmental Risk Assessment, any fire risks will be effectively mitigated with preventative measures put in place.

7.1.5 Fire would impact the road users at Receptor 32 and 33, however with the fences installed around the boundary of the site and with the implementation of the control measures outlined in this plan, the risk of fire spread would be mitigated. Due to the nature of these receptors which are busy highways and large sources, local authorities would be informed in the event of a fire, to put appropriate measures in place reducing traffic.

7.1.6 Receptor 8, the River Malago has been classed as a sensitive ecological receptor as it is an open water body located 85m from the site. There are also European eels that may be found in this River. Fire water has the potential to cause ecological stress within the animal community and pollute the river. However, damage will be mitigated as the site has a sealed drainage system and an impermeable operational area preventing fire water being discharged into the river.

7.1.7 Properties on Whitchurch Road, Headley Lane, Brookdale Road and Hareclive Road (Receptors 1-4) are considered to be sensitive receptors as they are within 500m of the site and so they are susceptible to the potential adverse effects of exposure to increased fire risk. The properties on Brookdale Road may be affected by the spread of fire due to the prevailing winds as they are located to the north and east of the site, respectively. However, the distance between the site and the receptors forms a potential buffer zone and allows time for firefighting measure to be put in place before it could reach the receptors during an incident.

7.1.8 Receptors 5-7 and 9, Local Nature Reserve, PHIs and Pigeonhouse Stream, are considered ecological receptors. Members of the public using these sites for recreational purposes and plant/animal communities at these sites may be affected during an incident. The mitigation procedures outlined in this plan will prevent and mitigate the spread of fire reaching these areas.

7.1.9 Bishopsworth Road Allotments (Receptor 10) are considered a sensitive receptor due to their proximity at 40m to the north of the site and due to the nature of activities there with users being outside. The mitigation procedures outlined in this plan will preventing the fire reaching this area. The site infrastructure with processing occurring within the covered building will also act as a buffer to screen fire from reaching this receptor.

7.1.10 There are seven primary schools, Receptors 11-17, located within 1000m of the site. Only Headley Park Primary School is classed as a sensitive receptor as it is within 500m of the site. Due to the nature of the activity at these receptors, and the negative health impacts of potential fires and smoke on the young students and staff at the schools they can be impacted by the risk of fire. The preventative measures outlined in this plan and the Environmental Risk Assessment will prevent the spread of fire escaping from the site and impacting these receptors. During an incident in which the likelihood of fire spreading is high, site operatives would contact local authorities who can alert the schools to evacuate.

7.1.11 There are two care homes (Receptor 23 and 24) located within 1000m of the site. Fire is unlikely to spread to these receptors on the north easterly prevailing winds as they are located to the south and west of the site, not in the direction of the winds. The preventative measures outlined in this plan and the Environmental Risk Assessment will prevent the spread of fire escaping from the site and impacting these receptors. During an incident in which the likelihood of fire spreading is high, local authorities would alert the care homes.

7.1.12 There are multiple sensitive land uses surrounding the site (Receptors 18-22 and 26) which are considered medium risk receptors. Due to the industrial uses of the surrounding area and nature of material on site, this site will not increase fire risk more than the existing level at the location.

7.1.13 There are two places of worship within 500m of the site, Receptors 18 and 26. Due to the distance from the site, they are considered sensitive receptors. Alongside the measures outlined in this document, fires will be prevented from spreading and affecting the public present at these receptors.

7.1.14 There are multiple industrial and commercial businesses located within 1000m from the site (Receptors 27-29). Which would be at risk if fires had spread, however the likelihood of this occurring is extremely low with the measures identified in this document.

7.1.15 There are two public footpaths located near the site (Receptors 30-31), located 400m and 590m from the site respectively. The roads and infrastructure between the paths and the site act as a barrier. The site alarms would act as a deterrent from using these paths in the event of a fire and with preventative measures in place the likelihood of spread is effectively mitigated.

7.1.16 There are many local wildlife sites, farmland and open space within 1000m of the site that are not marked on Figure 2 that are considered as low risk or low sensitivity in accordance with IAQM guidance. These have not been added as receptors to Figure 2.

8 Common Causes of Fire

8.1 Arson and Vandalism

8.1.1 The site is surrounded by palisade fencing and secure access gates to prevent access to potential arsonists or vandals.

8.1.2 24-hour CCTV is in operation on site at the main site access gates.

8.2 Plant and Equipment

8.2.1 Daily checks are to be carried out on equipment to ensure its safe for use on site and any faults observed should be reported to the supervisor and repaired within 24 hours. If this is not possible the machine should be marked as 'out of order' with a clear and obvious sign.

8.2.2 All mobile plant/equipment will have automated fire detection, meaning that preventative measures can be employed sooner.

8.2.3 During out of hours, equipment will be kept six metres away from any POPs waste.

8.3 Electrical Faults

8.3.1 All electrics on site are fully certified by a qualified electrician and with written procedures in place that set out the regular maintenance.

8.3.2 Any potential ignition sources from suspected electrical faults should be isolated and an electrician should be contacted immediately to rectify the situation. Whilst waiting for repair, these items should not be used.

8.3.3 If safe and able to do so, staff will remove any stored wastes from the vicinity of the fault area or cable traverse.

8.4 Discarded Smoking Materials

8.4.1 Smoking is prohibited on site other than at the designated smoking point. This will minimise the likelihood of discarded smoking materials causing any fires.

8.5 Hot Works Safe Working Procedures

8.5.1 The use of welding/cutting tools (i.e., with naked flame) must be sanctioned first by the Depot Supervisor/competent person and a hot works permit issued.

8.6 Hot Exhausts and Engine Parts

8.6.1 Operators will monitor any heavy machinery when in use on site to minimise risk of overheating.

8.6.2 In the case of engines and machinery overheating, these issues will be reported to site management and machinery will be left segregated 6m away from stockpiles, until safe to use.

8.7 Industrial Heaters

8.7.1 Industrial heaters are not permitted in operational areas.

8.8 Ignition Sources

8.8.1 No wastes shall be burnt on site.

8.8.2 No naked flames are to be used on site without being sanctioned by a supervisor.

8.9 Batteries

8.9.1 Batteries are not permitted on site.

8.9.2 A small number of batteries maybe present within the skip wastes brought onto site, these are kept quarantined and removed from site as soon as possible. As waste acceptance criteria are adhered to, these should be kept at a minimum.

8.10 Leaks and spillages of oils and fuels

8.10.1 Fuel and oil stored on site will be contained in compliance with oil storage regulations. The fuel tanks will be contained within a bund capable of containing 110% of the maximum

volume of the tank. This bund will enclose all the pipework and infrastructure associated with the tank. The tank will be locked to prevent unauthorised access to prevent leaks and theft.

8.10.2 Waste fuels and oils are not permitted on site, so there should be a minimal amount of these on site if the waste acceptance criteria is adhered to.

8.10.3 Any spillages occurring when operations are being carried should be cleaned up appropriately and reported to the TCM or site manager.

8.11 Build-up of loose combustible waste, dust and fluff

8.11.1 Any fractions from the shredding process must be sent for incineration and treated as POPs waste unless they are shown to not contain POPs, this can be shown using an XRF analyser to highlight the presence of bromine indicating the likelihood of POPs waste being present.

8.11.2 Debris from the shredding process is to be monitored and will be routinely disposed of between cycles.

8.11.3 A strict housekeeping routine (detailed in the EMS) is adhered to on site to prevent the build-up of any loose wastes, dust and fluff.

8.11.4 Stockpiles are maintained daily and limited in height and size to prevent litter and loose waste escaping from the stockpile.

8.12 Reactions between wastes

8.12.1 Wastes will be kept separate on site to prevent mixing and mitigate the risk of reactions between waste types.

8.12.2 POPs waste will be stored in a segregated bay, in a covered building to minimise its exposure to other waste streams.

8.12.3 Special care will be taken with respect to potentially explosive/volatile material during handling, e.g., aerosol cans, oxidising agents, corrosive substances. These shall be removed from the waste load prior to further handling.

8.13 Waste acceptance and deposited hot loads

8.13.1 All loads are inspected in accordance with strict waste acceptance procedures. If loads arrive at site which are above ambient temperature, they are intercepted by operatives who will refuse the acceptance of the waste.

8.13.2 If found following tipping, they will be segregated to the quarantine area, so that the material does not pose a concern/fire risk to the site. The material will be dampened down/be treated to ensure the risk fire is completely negated.

8.14 Hot and dry weather

8.14.1 POPs and any combustible waste is stored under a covered building and will be monitored for increases in temperatures using a infra-red temperature probe.

8.15 Prevent self-combustion

8.15.1 All waste stored on site will comply with Section 9.1 of the EA's FPP guidance and ETM Recycling will only store POPs waste in storage bays with a 93.5 m^3 volume capacity that minimise pile sizes and store wastes in their largest form, as shown in Table 3.

8.15.2 All waste has undergone pre-acceptance checks and combustible waste is managed on a 'first in, first out' principle meaning that existing waste is kept in a separate stockpile to new material to ensure that the former is not stored for up to 6 months, which minimises over-stocking and the risk of overheating.

8.15.3 A member of staff will be designated to carry out a fire watch at the end of each shift, and whenever high-risk activities such as hot works are undertaken.

8.15.4 Inert waste stored on site are considered non-combustible and the storage of such has not been referenced in this FPP as it will be governed by other working documents such as the site-specific EMS.

9 Fire Prevention Measures

9.1 Equipment Fault Prevention

9.1.1 All items of plant and equipment are subject to preventative maintenance checks to ensure safe operation and to prevent any potential faults or malfunction. Much of the plant and equipment on site and all vehicles are subject to manufacturer maintenance to ensure proper working order in the form of service contracts.

9.1.2 Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis i.e., daily, before, during and at the end of each working day, to ensure, where possible, the machinery is mechanically sound and comments noted on an inspection sheet.

9.2 Storage Time

9.2.1 Wastes will be stored on site pending disposal up to a maximum of 1 year and pending recovery up to a maximum of 3 years. Typical storage times will be less than 30 days.

9.3 Temperature monitoring

9.3.1 Daily checks will be carried out on stockpiles to monitor temperatures by the operator using a infra-red temperature probe, with stockpiles being dampened down in the case of excessive heat generation and site management being informed.

9.3.2 POPs waste stockpiles are kept in a covered building so will not be exposed to direct sunlight, minimising the risk of temperature rise and combustion.

9.3.3 The shredder and baler will be operated within a covered building and any debris will be cleared between cycles, this waste will be treated as POPs waste unless it can be shown otherwise.

9.4 Waste Bale Storage

9.4.1 A baler/compactor is used to bale POPs waste. Bales will be stored in the shredded POPs storage area shown in drawing CR-MTS-DR-PL-002 in the covered building before removal offsite. No more than 50 bales will be stored at any one time. As a small quantity of bales are stored for a short time only (maximum of 30 days), representative temperature readings are not taken.

9.4.2 The height and width of stacked bales will not exceed 12.5m and 9.25m respectively, to allow access and the suppression of fire using manual means, such as hoses. Bales will be stacked securely to prevent stacks falling and increasing the spread of the fire and blocking access.

9.4.3 The compactor will also be used to bale cardboard and plastics, which will be stored in the outdoor stockpiles pending removal offsite. These bales will not exceed 7.25m and 2m in length and width respectively.

10 Management of Stockpiles

10.1 Maximum Stockpile Sizes

10.1.1 POPs waste will be stored in a separate stockpile to shredded POPs waste with the stockpiles shown in Figure 2.

10.1.2 All inert waste streams (non-combustible) will be stored outdoors. As detailed in point 8.15.2 combustible waste is managed on a 'first in, first out' principle meaning that POPs waste is stored for a maximum of 6 months, which is well within the permitted storage times stated in the environmental permit.

10.1.3 During the shredding process of POPs waste, the temperature of stockpiles will be monitored using a infra-red temperature probe, to help detect/prevent fires.

10.1.4 When there is no POPs /PVC waste on site, other permitted wastes will be stored in the storage bays. These would be segregated by type, with the total volume stored on site not exceeding the maximum volumes listed in the tables.

10.1.5 Stockpile sizes are detailed in Table 4.

Table 4 - Stockpiles on site

Waste stream	Location	How it is stored	Max. length / m	Max. width / m	Max. height / m	Volume / m^3	Max. time it will be stored
POPs Waste	POPs Waste Storage	Segregated Stockpile	7	3.5	2	73.5	6 months
Shredded POPs	Shredded POPs Storage	Segregated Stockpile	8.5	5.5	2	93.5	6 months
Whole PVC	PVC Storage	Designated Stockpile	7.25	2	2.5	36.25	1 year
Shredded PVC	Shredded PVC Storage	Designated Stockpile	7.25	2	2.5	36.25	1 year
Bale Storage	Baled Waste Storage	Designated Stockpile	Each bale 1m	Each bale 1m	Each bale 1m	Max 50 Bales on site	6 months

Waste stream	Location	How it is stored	Max. length / m	Max. width / m	Max. height / m	Volume / m^3	Max. time it will be stored
Metals and metal containing waste. (ferrous/non-ferrous)	Metal Skip	Segregated Stockpile	5	1	2	10	14 days
Wood	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days
Paper and cardboard	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days
Textiles	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days
Concrete	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days
Glass	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days
Mixed construction and demolition	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days
Soil and stones	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	7 days
Mixtures of concrete and bricks	Outdoor Storage	Segregated Stockpile	7.25	2	2.5	36.25	14 days

10.2 Waste stored in Containers

10.2.1 Waste on site will be stored in segregated stockpiles or bays.

11 Prevention of Fire Spreading

11.1 Fire Drills

11.1.1 Regular fire drills will be conducted on site, to ensure that the alarms are working and so staff are well versed with procedures in the event of a fire.

11.2 Fire Extinguishers

11.2.1 Appropriate fire extinguishers shall be made available and easily accessible. These will be marked clearly, and operators will be shown where they are located as part of their training.

11.3 Fire Walls and Bays

11.3.1 POPs waste will be stored separately to prevent mixing and possible reaction between wastes.

11.3.2 Different waste types will be kept segregated within the stockpiles labelled in the site plan.

11.3.3 The POPs waste and shredded POPs will be kept separate using a lego brick wall, these are categorised as Class A1 fire resistant in accordance with EN 13501-1, which means they are classed as non-combustible and have no contribution to fire.

11.3.4 Stock will be rotated on a first in first out policy. This will be monitored through the site database, the incoming and outgoing transaction dates of each waste stream will be recorded, to ensure there is a frequent stock rotation.

11.3.5 Temperatures of waste within the bay will be monitored daily using a infra-red temperature probe, allowing representative checks on the entire volume.

11.3.6 A clear marking is on the bay walls to show a keep clear space, a 'freeboard' space of 1m minimum at the top and sides of the bay walls at all times to prevent fire spreading over and around the walls.

11.3.7 Daily monitoring of machinery will be carried out, with any potential source of ignition being segregated in quarantine.

11.3.8 No wastes are to be burnt on site and no hot works are to be carried out without prior approval, due to this external ignition sources will be kept to a minimal.

11.4 Separation Distances

11.4.1 All stockpiles of combustible waste are stored in covered bays separated by lego brick walls, that resist both radiative heat and flaming. No combustible waste is stored in open stockpiles.

11.5 Quarantine

11.5.1 The largest waste stockpile on site is the 'shredded POPs storage' which will be composed of a mixture of combustible and non-combustible wastes and will have a total volume of 93.5 m^3 if at full capacity, which is unlikely.

11.5.2 A quarantine skip will be used for non-permitted wastes.

11.5.3 Wastes will only be moved to the quarantine skip if safe to do so.

12 Detection of Fires

12.1 Fire Detection

12.1.1 The site is monitored by 24-hour CCTV which will allow flames to be detected visually.

12.1.2 If a fire is suspected during operational hours, it must be reported to site management/ relevant person immediately. The relevant person will then carry out the following procedure:

- Raise the fire alarm (if not already done by another staff member).
- Initiate evacuation of staff and visitors on site to the assembly point and conduct a rollcall to ensure all site users are accounted for.
- Assess the scale of the fire and judge whether the fire can be managed without emergency services.
- If viable and safe, instruct necessary site staff to commence extinguishment.

12.1.3 Outside operational hours, all machinery and equipment will be turned off and segregated from any waste stockpiles.

12.1.4 A smoke detector system will be in place to raise the alarm for fires outside of working hours.

12.1.5 The installation and maintenance of these systems will be covered by an appropriate certification scheme, such as UKAS, and be annually tested to meet the British Standard.

13 Suppression of Fires & Firefighting Techniques

13.1 Systems

13.1.1 Within the covered buildings, automated fire suppression systems will be employed, including a fire monitoring system, these will be serviced annually.

13.1.2 Automated sprinklers and deluge systems will help to suppress and extinguish fires.

13.1.3 Manual measures in place will include accessible fire extinguishers and two water source points on site which spray hoses can be connected to. These are mains sources, so the supply is reliable and readily available at any time.

13.1.4 Machinery will be available to move unburnt material to prevent fire spreading to different stockpiles, if safe to do so.

13.2 Access for Emergency Services

13.2.1 The nearest fire station is Hartcliffe Way, situated 2 miles away from site. The Fire Rescue Service could be at the site and begin fighting a fire within 10 minutes of a call.

13.2.2 The site has direct access into the site from Bakers Park and the width of the surrounding roads and the gateway provide sufficient access onto the site for the Fire Rescue Service.

13.2.3 The storage building has an open front so firefighting measures can be put in place quickly.

13.3 Notifying nearby properties

13.3.1 The nearest receptors within 200m of the site (users of the Industrial Estate) will be informed of the fire by site operators and the Fire Rescue Service, Local Council and EA will be contacted to ensure further properties are informed should the fire become problematic i.e., local business, houses.

14 Water Supplies

14.1 Water Supply

14.1.1 There are two water sources on site which will be readily available in the case of a fire, as they are mains sources the supply is reliable.

14.1.2 In accordance with Section 16 of the EA's Fire Prevention Plan guidance, the site should have enough water available for firefighting to take place and to manage a worst-case scenario. The worst-case scenario at the ETM Recycling site would be the largest waste pile catching fire. The maximum pile size for POPs waste is 93.5 m^3 when at full capacity and assuming all waste in the pile is combustible, this would require 112,256 litres (113 m^3) of water for a minimum of 3 hours which equates to 37,418.7 litres per hour or 623.65 litres per minute.

14.1.3 The access points are within 100 m of the stockpiles stored on site, so will be easy to access for the Fire Rescue Service.

14.1.4 As there will be no material regarded as hazardous under the European Waste Codes, the water supply will be sufficient in the event of a fire.

15 Managing Fire Water

15.1 Drainage System

15.1.1 The operational area of the site has an impermeable surface with a sealed drainage system that collects all surface water run off via the natural fall of the site. This is treated through a full retention interceptor connected to foul. In the event of a fire, the discharge valve would be turned off to contain firewater.

15.1.2 Any water contaminated during a fire would therefore be prevented from entering the offsite drainage system.

15.2 Risks to Groundwater

15.2.1 The site is not based on a source protection zone or drinking water safeguard zone. In addition to this the operational area is impermeable with a sealed drainage system, so there are minimal risks of contaminated waters affecting water sources.

16 During and after an Incident

16.1 During a Fire

16.1.1 In the event of a fire, the site will cease accepting waste. All customers who wish to deliver wastes during a fire will be notified by site admin staff and any who arrive without prior notification will be turned away.

16.1.2 During a fire, the site alarm system will notify surrounding businesses and residents.

16.2 Emissions to air

16.2.1 The combustion of waste materials during a fire can release harmful emissions to the air. The wind can disperse soot, dust and potentially toxic gases such as carbon monoxide, volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons (PAHs) across a wide area. If inhaled, smoke and particulate matter can cause respiratory irritation and pollute the surrounding area. In the event of a fire, site staff and visitors will be evacuated to a safe area and residents and businesses advised to keep doors and windows closed, particularly residential housing within 200m of the site. The fire detection system and firefighting by both suitably trained staff and the emergency services will ensure that a fire is extinguished as quickly as possible, ensuring that the production and spread of aerial emissions is minimised.

16.3 Emissions to Land

16.3.1 Any ash or debris produced following a fire will be contained and disposed of to a permitted site to prevent the potential emission to surrounding land.

16.4 After an Incident

16.4.1 No waste will be accepted on site until the post-fire procedures outlined in the section below have been implemented.

16.4.2 After an incident has occurred any materials contaminated with POPs waste will be sent for incineration unless they can be shown otherwise using XRF analysis.

16.5 Post Fire Site Recovery

16.5.1 Any damage to the site and fire prevention measures will be assessed with issues to building integrity and any damage to suppression systems requiring to be resolved before the site can become operational.

16.5.2 If a recovery procedure is required, the following steps will be implemented before the site is operational again:

1. Remove damaged material to a permitted facility that can deal with it legally.
2. Carry out repairs on any damaged infrastructure, vehicles and operational systems.
3. Assist the FRS with any ongoing fire investigation and if necessary, seek advice from a professional fire consultant.
4. Review and update the FPP and EMS procedures to prevent future incidents.
5. Review training requirements for staff.
6. Assess the requirement for further preventative measures.
7. Replenish any fire equipment which was used.
8. Dispose of fire water to a permitted facility.

17 Summary

17.1 The waste types and activities permitted at Bakers Park Site may increase the chance of fire, however this will be effectively mitigated by the prevention measures outlined in this document. In any event, the spread of fire will be minimised due to the measures put in place.

17.2 The main risk of fire will be related to treatment activities and stockpiling of POPs waste.

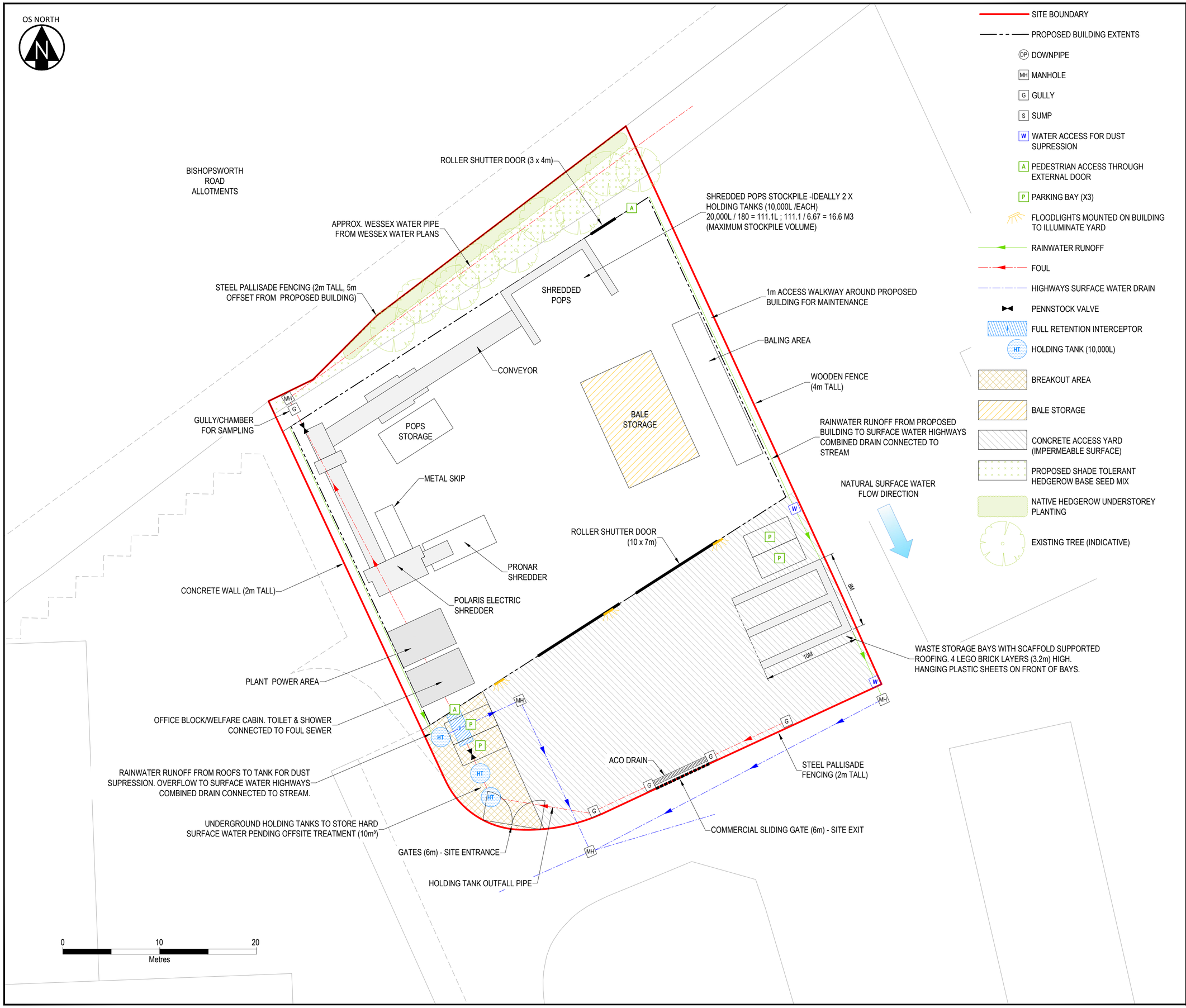
17.3 Sources of potential fires will be managed with effective site management and appropriate mitigation measures, these will include:

- Daily review of site operations and equipment
- All processing activities conducted within the covered building
- Readily available water sources on site
- Damping down of stockpiles in the case elevated temperatures
- Appropriate location of stockpiles to prevent fire spread between stockpiles
- Regular maintenance of all plant
- Keeping vehicles and roadways clear of stockpiles
- Careful transfer of material on site

17.4 Monitoring of stockpiles and their temperatures, and an annual review of the DMP will be carried out to prevent any adverse impacts from the site.

17.5 The procedures outlined in this FFP apply to all activities carried out at the ETM Ltd Bakers Park site for wastes stored at the facility.

Appendix A – Site Layout Plan



Notes:

TREES IN THE RAISED VEGETATION VERGE ARE PROTECTED UNDER A PLANNING CONDITION.

REF. LEAF LANDSCAPE PLANTING PLAN, DRAWING NO. 2403-001-LL01, 16.05.24.

SEE DRAWING NO. CR-MTS-DR-PL-0010 FOR VEHICLE MOVEMENT PLAN.

Rev	Date	Description	By	Ckd
A	09/07/24	Planning issue	NG	LB

mts environmental
Filwood Green Business Park, 1 Filwood Park Lane, Bristol BS4 1ET
Tel: 0117 370 4250
www.mtsenvironmental.co.uk

Client

ETM RECYCLING

Project

Cater Road, Bristol

Title

PROPOSED SITE LAYOUT

Drawn	Checked	Scale at A2	Date	Issue Date
NG	LB	1:250	09/07/24	09/07/24

Drawing status

PLANNING

Drawing No.	Revision
CR-MTS-DR-PL-0002	A

Appendix B – Environmental Risk Assessment

Written by

mts environmental
Innovation and Partnership

In partnership with

ETM RECYCLING

Environmental Risk Assessment

Household, commercial, and industrial waste transfer station

Unit 19 Bakers Park,
Cater Road,
Bishopsworth,
Bristol,
BS13 7TT

Document Title	Environmental Risk Assessment
Revision	3.0
Date	30-09-24
Document Reference	ETM Caters Road ERA 30-09-24
Prepared For	ETM Recycling Ltd
Authored By	MTS Environmental Ltd

Quality Control

Revision No.	Date Revised	Description of changes	Authored By	Sign Off	Approved By	Sign Off
1.0	14/03/23	Original draft for permit variation application	Kasia Haywood		Luke Bridges	
2.0	24/05/23	Small updates for final issue for permit variation	Kasia Haywood		Luke Bridges	
3.0	30-09-24	Amendments based on EA discussions	Leonie Horwood		Luke Bridges	

Contents

1. INTRODUCTION 4
2. Environmental Risk Assessment 4
2.1. Methodology 4
2.2. Potential Hazards 4
2.3. Pathways 5
2.4. Receptors 5
2.4. Risk Assessment 6
3. Summary 7

Appendices

Appendix A – Environmental Risk Assessment

Appendix B – Sensitive Receptor Plan

1. Introduction

This section of the permit variation application corresponds to Section 6 of Part C2 of the Environmental Permit application form.

ETM Recycling Ltd is applying to vary its existing environmental permit (permit number: JP3793FP), for its Unit 19 Bakers Park site on Cater Road, Bishopsworth, Bristol, BS13 7TT. The purpose of the variation is to:

- Add additional permitted waste streams to the existing permit
- Add additional activities and treatment processes

This Environmental Risk Assessment (ERA) is limited to a qualitative assessment of the potential risks to the environment and human health specifically related to the activities, including the proposed activities, undertaken at the ETM Recycling Ltd Caters Road site. This report will identify any significant risks and detail the measures that ETM Recycling Ltd will adopt to appropriately manage any risk of pollution.

2. Environmental Risk Assessment

2.1. Methodology

This report has been prepared following the Environment Agency's Risk Assessment guidance. It specifically relates to the potential risks associated with odour; noise and vibration; fugitive emissions and accidents and incidents.

This risk assessment addresses the above risks and is based on the following methodology:

- Identification of potential risks
- Identification of all potential receptors to these risks
- An assessment of each risk type.

The Environmental Risk Assessment (Appendix A) assesses the risks to the environment and human health from activities carried out at the ETM Recycling Ltd Bakers Park site and identifies the pollutant linkage i.e. source – pathway – receptor for each risk type.

2.2. Potential Hazards

The potential hazards resulting from the activities carried out at the ETM Recycling Ltd Caters Road site have been considered, as provided in Appendix A, and are summarised below:

- Odour:
  - Waste materials
- Noise and vibration:
  - Engine noise from vehicles
  - Use of reverse vehicle warnings
  - Use of plant and machinery
- Fugitive emissions:
  - Particulate matter i.e. dust

  - Scavenging birds, pests, and vermin
  - Mud and litter
- Accidents:
  - Fire
  - Leaks and spillages
  - Flooding
  - Unauthorised access

2.3. Pathways

The pathways identified for each risk type are shown in Table 1:

Table 1: Potential Pathways

Risk Type	Pathway
Odour	Air
Noise and vibration	Air
Fugitive emissions	Air
Accidents	Air
	Surface water run-off
	Infiltration
	Percolation

2.4. Receptors

Receptors within 1km of the application site have been identified and are shown in Table 2 below and in the Sensitive Receptor Plan (Appendix B). The main pathway for the identified sources is the air and as such, atmospheric conditions can affect dispersion rates and the potential risk. Therefore, the location of each receptor in relation to the site may influence the potential impact of the risk, as summarised in Table 2.

Table 2: Location of potential receptors in relation to waste operations

Receptor	Distance from site (m)	Direction
Residential		
Properties on Whitchurch Road	165m	West
Properties on Headley Lane	105m	North
Properties on Brookdale Road	225m	East
Properties on Hareclive Road	395m	South
Designated Land and Waterways		
Local Nature Reserve – Manor Woods Valley	400m	North
Priority Habitat Inventory (PHI) – Deciduous Woodland	570m and 400m	East and North
PHI – Good quality semi-improved grassland (Non-priority)	925m	North East
River Malago	85m	West
Pigeonhouse Stream	610m	East
Sensitive Land Uses		
Bishopsworth Road Allotments	40m	North
Headley Park Primary School	310m	North East
Merchants Academy	550m	South

St Peter's Primary School	500m	West
Gay Elms Primary School	950m	South West
Bedminster Down School	715m	North West
Fair Furlong Primary School	960m	South
Cheddar Grove Primary School	915m	North
St Peter's Church	375m	West
Kings Head Lane Park	535m	North West
Allotments	660m	North
Willmott Park	890m	South East
Merchants Academy Sports Centre	680m	South
MHA Hartcliffe Nursing Home	760m	South
Bishopsmead Lodge Care Home	620m	West
Saint Pius X Roman Catholic Church and Primary School	765m	South West
Headley Park Church	340m	North West
Industrial/Commercial		
Headley Park Community Centre	265m	North East
Cater Business Park	0m	South and East
Imperial Park Shopping Centre	710m	East
Surrounding Businesses		All directions
Public Rights of Way		
Public Footpath in Manor Wood	400m	North
Public Footpath in Crox Bottom	590m	East
Infrastructure/utilities		
A4174	335m	South
A3029 Hartcliffe Way	870m	East
Groundwater		
The site is not within a source protection zone or drinking water safeguard zone		

2.5. Risk Assessment

The Environmental Risk Assessment (Appendix A) looks at each specific hazard identified and assesses the likelihood of those hazards impacting on nearby receptors. This is achieved by fulfilling the following objectives:

- Identify the location and nature of each hazard
- Identify the specific receptors potentially at risk and assess the sensitivity of each receptor
- Provide an assessment of the risk posed to each sensitive receptor
- Identify management and monitoring techniques to remove or mitigate the risk
- Provide recommendations for more detailed assessments where necessary.

2.6. Protected/Sensitive Receptors

There are a number of protected receptors within 1000m of the site: deciduous woodlands and a local nature reserve, these have all been identified on the sensitive receptor plan (Appendix B). This risk assessment has been written considering these sensitive receptors. The risk management controls outlined in the assessment in Appendix A are deemed to mitigate any risks from the site to be low risk to these receptors.

Further details on the environmental effects on the risks can be found in the site-specific Dust

Management Plan. This outlines the mitigation measures in place on site that reduce risks to the sensitive receptors.

3. Summary

The Environmental Risk Assessment indicates that if the appropriate outlined management techniques are implemented at the site to protect nearby sensitive receptors, the proposed activities as part of the permit variation will have no significant impacts in terms of odour, noise and fugitive emissions, and the likelihood of accidents is minimal.

Appendix A – Environmental Risk Assessment

Table A1: Odour Risk Assessment and Management Plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
Odorous Waste Types	Local population in residential dwellings, sensitive land uses in Table 2 Site Staff	Air transport then inhalation	Permitted waste types stored onsite are not putrescible and so have a low odour potential. There will be strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted. Details of the waste acceptance procedures are provided in the Environmental Management System (EMS). All site operatives will be vigilant regarding identifying non-compliant wastes and any non-conformances or odour issues will be reported to the Site Manager.	Very unlikely as the waste types accepted on site do not give off odour unless heated and the material will be stored at ambient temperature	Odour annoyance and complaints	Low

Table A2: Noise and Vibration Risk Assessment and Management Plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
Noise and vibrations from loading and unloading of waste	Local population in residential dwellings, sensitive land uses, and woodlands/ wildlife sites listed in Table 2	Air and vibration	All noise generating activities will be undertaken between the hours of 07:00 to 18:00 Monday to Friday and 07:00 to 13:00 on Saturday, except for emergency repairs. All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements to minimise the risk of mechanical failure which could result in increased noise emissions. The loading/unloading of wastes will be undertaken in a controlled manner to keep noise/vibration to a minimum. Vehicles will be directed by site operatives to minimise the drop height when depositing loads at the site. All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent noise disturbance	Noise annoyance and complaints	Low
Vehicle movements on site	Local population in residential dwellings, sensitive land uses, and woodlands/ wildlife sites listed in Table 2	Air	Loads will only be delivered to the site during working hours (07:00 to 18:00 Monday to Friday and 07:00 to 13:00 on Saturday). The delivery of waste will take place in a controlled manner to keep noise to a minimum. All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements to minimise the risk of mechanical failure which could result in increased noise emissions. An anti-idling policy ensures that all equipment and vehicles when not in regular use shall be switched off. The Site Manager will be responsible for ensuring the above measures are implemented.	Intermittent during operating hours	Intermittent noise and vibration disturbance	Low

			All noise generated by vehicle movements will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.			
Use of plant and machinery.	Local population in residential dwellings, sensitive land uses, and woodlands/wild life sites listed in Table 2	Air	All noise generating activities will take place during working hours (07:00 to 18:00 Monday to Friday and 07:00 to 13:00 on Saturday), except for emergency repairs. All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements. All processing plant will be stored and operated inside the covered building. All equipment and vehicles, when not in regular use, shall be switched off. The Site Manager will be responsible for ensuring the above measures are implemented. All noise generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Low
Noise from reversing vehicle warnings.	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2	Air	All noise generating activities will take place during working hours (07:00 to 18:00 Monday to Friday and 07:00 to 13:00 on Saturday) except for emergency repairs. All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise disturbance.	Low

Noise from processing of waste materials (shredding, baling)	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2	Air	All noise generating activities will take place during working hours (07:00 to 18:00 Monday to Friday and 07:00 to 13:00 on Saturday) except for emergency repairs. All processing activities are conducted within the covered recycling building to prevent the escape of noise, the building walls act to absorb noise from processing activities. Processing activities will not generate levels of noise above that originating from the surrounding industrial units and area. All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements to minimise the generation of noise. All plant and equipment will be switched off when not in regular use. All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours	Intermittent noise disturbance	Low

Table A3: Fugitive emissions risk assessment and management plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
To Air						
Dust emissions from vehicle movements	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2. Site Staff Users of roads listed in Table 2	Air transport then deposition	Wastes being delivered to the site will be covered or sheeted to prevent the generation of dust while the waste is in transit. Vehicle speeds will be limited onsite and the access road to 5mph to prevent re-suspension and movement of dust. Vehicles have a designated route on site to avoid contact with stockpiled materials. All equipment and vehicles when not in regular use shall be switched off to minimise the risk of dust emissions that may arise from idling. The site will benefit from an operational wheel wash in the form of a jet wash which is used by HGV's before they leave the site. This will minimise the risk of dust emissions on the haul road. The implementation of dust suppression systems including the use of spray hoses, use of a mobile water bowser to dampen down stockpiles and regular maintenance of haul roads with a water bowser and road sweeper. The site is enclosed within fencing and established vegetation around the site perimeter will act as a screen for dust so no dust escapes from the site boundary. Dust will be managed in accordance with the Dust Management Plan prepared for the site.	Unlikely due to measures in place	Local nuisance i.e. dust on cars, clothing, and vegetation. Nutrient enrichment.	Low

			The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.			
Dust emissions generated during unloading of waste from HGVs.	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2. Site staff Users of roads listed in Table 2	Air transport then deposition	A water bowser will be used to dampen site haul roads, storage bays and stockpiles if necessary. The loading/unloading of wastes will be undertaken in a controlled manner to keep dust emissions to a minimum. Drop heights will be minimised to reduce the generation of dust whilst the waste is being handled. The site is enclosed within fencing and established vegetation surrounding the site perimeter will act as a screen for dust so no dust escapes from the site boundary. Dust will be managed in accordance with the Dust Management Plan prepared for the site. The Site Manager will undertake a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager. Operations will temporarily cease when winds are likely to generate dust emissions from wastes and materials.	Dust could potentially reach nearby properties when a strong wind blows in their direction. Management actions should prevent this happening	Local nuisance i.e. dust on cars, clothing, and vegetation. Nutrient enrichment.	Low
Dust from haul road.	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2. Users of roads listed in Table 2.	Air transport then deposition	The use of modern plant and regular maintenance shall be practiced to reduce emissions. The implementation of dust suppression systems including the use of spray hoses, use of water supply to dampen down stockpiles and regular maintenance roads road sweeper. The site will benefit from an operational wheel wash in the form of a jet wash which is used by HGV's before they leave	Unlikely due to measures in place	Local nuisance i.e. dust on cars, clothing, and vegetation.	Low

			the site. This will minimise the risk of dust emissions on the haul road. The site is enclosed within fencing and established vegetation surrounding the site perimeter will act as a screen for dust so no dust escapes from the site boundary. A fixed water source will be used to dampen site haul roads. Vehicles have a designated route on site to avoid contact with stockpiled materials. Dust will be managed in accordance with the Dust Management Plan prepared for the site. The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.			
Dust emissions from the processing of waste materials (shredding, baling)	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2. Users of roads listed in Table 2	Air transport than deposition	All plant is regularly maintained to reduce emissions. The implementation of dust suppression systems including the use of spray hoses, use of a mobile water bowser to dampen down stockpiles and regular maintenance of haul roads with a water bowser and road sweeper. Processing operations are done on a campaign basis to avoid on-off use which can increase dust production. All processing activities are conducted within the covered recycling building to prevent the escape of dust. The shredding plant is fitted with bag filters. The site is enclosed within fencing and established vegetation surrounding the site perimeter will act as a screen for dust so no dust escapes from the site boundary. Dust will be managed in accordance with the Dust	Unlikely due to measures in place	Local nuisance i.e. dust on cars, clothing, and vegetation. Nutrient enrichment.	Low

			Management Plan prepared for the site. The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager			
Release of particulate matter (dusts), vapours and polluting gases	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2. Site staff Users of roads listed in Table 2	Air transport then inhalation	Permitted waste type do not include dusts, powders or loose fibres and waste is not typically dusty unless it is stored during prolonged dry periods when damping down is carried out where required. Hazardous wastes are not permitted on site. All POPs waste and shredded POPs waste is stored and processed inside the covered recycling building with bag filters on shredding plant. The potential sources of fugitive emissions to air have been identified and a Dust Management Plan has been prepared to prevent any potential dust emissions from reaching any nearby receptors. The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager	Unlikely due to measures in place	Respiratory illness including. lung cancer and mesothelioma.	Low

To Water						
Contaminated rainwater run-off.	Surface water and groundwater	Water	Permitted waste types do not include wastes in sludge or liquid form. Any waste types stored in open stockpiles are non-hazardous and so any run-off that is generated on site is highly unlikely to be contaminated. No hazardous wastes are permitted on site, this prevents the leaching of contaminants into groundwater. All POPs waste is stored within the covered building. In the event of a spill, emergency procedures as outlined in the EMS will be followed. The site benefits from a sealed drainage system which catches all surface water from the operational area of the site and can be shut off to contain contaminated rainwater run off. Fuel will be stored in a double bunded tank, following strict Environmental Law to reduce chances of fuel spills. The site is secure through fencing, gates and CCTV so theft or damage to fuel tanks which may cause spills is minimal. There are strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.	Very unlikely	Contamination of groundwater surface water bodies	Low
Pest/Scavenging Birds						

Birds and pests	Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2.	Air transport and over ground	Permitted wastes stored onsite are not putrescible and will therefore not be attractive to pests or scavenging birds. Any potential attractive wastes will be stored inside the covered building. There are strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS. The site is surrounded by fencing and gates to prevent access of pests. The Site Manager will undertake regular reviews of pests and scavenging birds at the site. All site operatives will be vigilant and report any problems to the Site Manager.	Very unlikely due to the nature of the waste material	Nuisance to local receptors within 1km of the environmental permit boundary.	Low

Mud						
Mud from vehicle movements	Users of local highways	Tracked on vehicle wheels.	The implementation of dust suppression systems including the use of spray hoses, use of a mobile water bowser to dampen down stockpiles and regular maintenance of haul roads with a water bowser and road sweeper. If mud is deposited on the access road and/or highway then a road sweeper will be employed if necessary. Vehicles have a designated route on site to avoid contact with stockpiled materials. All vehicles exiting the site would be checked for exterior mud or debris and must use the jet wash to wash wheels before exiting if mud is observed. The amount of mud on local roads will be monitored daily by site operatives.	Unlikely due to measures in place.	Local nuisance. Mud on roads is unsightly and can increase the likelihood of road traffic accidents.	Low
Litter						
Litter	All receptors listed in Table 2.	Air transport then deposition	Waste types received by the site generally do not contain litter. Operatives will be vigilant, and any litter reported will be removed immediately. All incoming loads will be sheeted and remain sheeted until they are ready to be tipped. The site is enclosed within fencing and established vegetation surrounding the site perimeter act to prevent the escape of any litter. There are strict waste acceptance procedures in place to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.	Unlikely due to measures in place.	Local nuisance	Low

			Working areas will be regularly cleared and inspected to minimise litter. Housekeeping measures are in place during operating hours.			

Table A4: Accident and Incident Risk Assessment and Management Plan

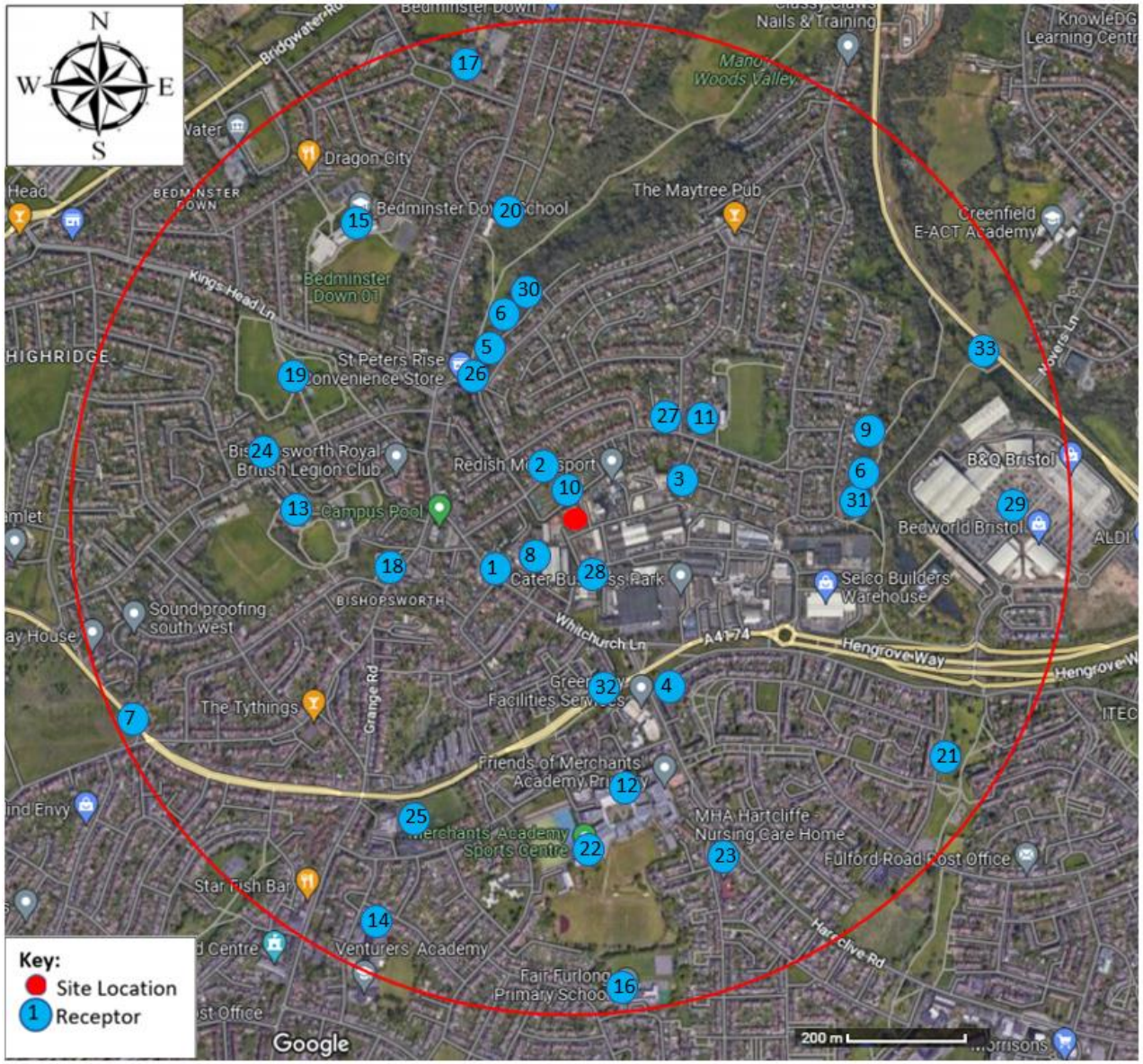
What is the risk?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk Management**	**Probability of Exposure**	**Consequence**	**What is the overall risk?**
Fire or failure to contain firewater	Air transport then inhalation or deposition Groundwater and surface water. Local residents listed in Table 2 Woodlands/wildlife sites	Infiltration and contamination of surface water	POPs waste is regarded to be combustible however the risk of fire is considered to be low as the proposed waste types are non-hazardous and no waste shall be burnt on site. The measures laid out in the fire prevention plan effectively mitigate the fire risk. The use of welding/cutting tools (tools with a naked flame) are sanctioned first by the site manager/competent person. All site operatives are required to recognise signs of smouldering waste at the point of reception. Such wastes shall remain in the container and removed to a safe area. The site manager shall be informed. There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS. The operator will undertake routine maintenance of equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in an increased risk of combustion. Site notices and training will be undertaken regarding fire hazards. Site Manager will be responsible for actions in the event of a fire.	Unlikely	Contamination of local groundwater and/or surface water.	Low

			The site benefits from a sealed drainage system for the operational area of the site, which can be shut off and contain any firewater if required.			
Leaks and spillages of oil or fuel.	Groundwater and surface water	Infiltration	The operator does not accept liquid wastes. The operator will undertake regular maintenance of plant equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in leaks. All fuel, oil and lubricants will be double-bunded and stored above ground on a pallet. The fuel storage will be maintained and inspected in accordance with the manufacturer's recommendations. The operational area of the site has an impermeable surface. Daily vehicle / plant checks to ensure any fuel/oil leaks etc. are repaired as soon as possible. Spill kits are readily available on site in case of a spill, these use absorbent mats which soak up any contaminating hydrocarbons. The emergency response outlined in the EMS will be followed. The Site Manager will be responsible for ensuring effective remediation and documenting any incident.	Unlikely due to measures in place.	Contamination of land and watercourses.	Low
Flooding	Groundwater	Infiltration and Percolation	The site is not located in an area at risk of flooding from rivers or surface waters. Hazardous waste is not permitted on site. The operational area of the site has an impermeable surface which increases surface water run off rates, however the	Unlikely due to measures in place in the nature of the proposed development.	Disruption to works operations Contamination of local groundwater	Low

			drainage system captures all surface water runoff so does not increase the risk of flooding in the surrounding area. The waste stored onsite is unlikely to cause contamination of groundwater through infiltration as the proposed waste types are all non-hazardous. Due to the nature of waste types which are proposed to be treated, if surface water comes into contact with these wastes, significant pollution or contamination of groundwater or surface water is considered highly unlikely.		and/or surface water	
Vandalism	Groundwater Local population in residential dwellings, sensitive land uses, and woodlands/wildlife sites listed in Table 2.	Unauthorised entry to the site	The site is gated with CCTV and is surrounded by security fencing and vegetation. The site is within an industrial area so is not on a road that many people will be passing by. Access to the waste area will be restricted to trained depot staff. All fuel, oil and lubricants will be double-bunded and stored above ground on a pallet. The fuel storage will be maintained and inspected in accordance with the manufacturer's recommendations. Any identified damage to the site security will be recorded and temporarily repaired as necessary before the end of the working day. Permanent repair or replacement will be undertaken as soon as practicable. Procedures are in place which require all visitors to the site to sign in on arrival and sign out on departure.	Unlikely due to measures in place.	Release of polluting materials to air, water or land.	Low

All on-site hazards from wastes; machinery and vehicles	Local human population gaining unauthorised entry to the site, site staff and contractors.	Direct physical contact	Activities will be managed and operated in accordance with an EMS which will include measures to prevent unauthorised access. Wastes, machinery, and vehicles will be handled by trained site operatives. All plant is serviced and maintained as part of a cyclical maintenance plan.	There is always a risk of accidents, but measures have been put in place to reduce the risk associated with site activities.	Injury or health effects	Low

Appendix B – Sensitive Receptor Plan



ID	Receptor
Residential	
1	Properties on Whitchurch Road
2	Properties on Headley Lane
3	Properties on Brookdale Road
4	Properties on Hareclive Road
Designated Land and Waterways	
5	Local Nature Reserve – Manor Woods Valley
6	Priority Habitat Inventory (PHI) – Deciduous Woodland
7	PHI – Good quality semi-improved grassland (Non-priority)
8	River Malago
9	Pigeonhouse Stream
Sensitive Land Uses	
10	Bishopsworth Road Allotments
11	Headley Park Primary School
12	Merchants Academy
13	St Peter's Primary School
14	Gay Elms Primary School
15	Bedminster Down School
16	Fair Furlong Primary School
17	Cheddar Grove Primary School
18	St Peter's Church
19	Kings Head Lane Park
20	Allotments
21	Willmott Park
22	Merchants Academy Sports Centre
23	MHA Hartcliffe Nursing Home
24	Bishopsmead Lodge Care Home
25	Saint Pius X Roman Catholic Church and Primary School
26	Headley Park Church
Industrial/Commercial	
27	Headley Park Community Centre
28	Cater Business Park
29	Imperial Park Shopping Centre
Public Rights of Way	
30	Public Footpath in Manor Wood
31	Public Footpath in Crox Bottom
Infrastructure/utilities	
32	A4174
33	A3029 Hartcliffe Way