



# Barking Metal Recycling Facility, Environmental Permit Variation Application

## Environmental Risk Assessment

### S Norton & Co Limited

Prepared by:

**SLR Consulting Limited**

3rd Floor, Brew House, Jacob Street, Tower Hill,  
Bristol, BS2 0EQ

SLR Project No.: 416.064707.00001

Client Reference No: 64371

7 September 2023

Revision: 01

## **Basis of Report**

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with S Norton & Co Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.



## Table of Contents

<b>Basis of Report</b> .....	<b>i</b>
<b>1.0 Introduction</b> .....	<b>1</b>
1.1 Methodology.....	1
1.2 Proposed Changes.....	1
1.2.1 Consolidation of the 2 permits .....	1
1.2.2 Additional Waste Types.....	2
1.2.3 Temporary Storage of Hazardous Waste.....	2
1.2.4 Processing of WEEE .....	3
<b>2.0 Identifying the Risks</b> .....	<b>3</b>
<b>3.0 Site Setting and Receptors</b> .....	<b>4</b>
3.1 Site Setting.....	4
3.1.1 Commercial and Industrial.....	5
3.1.2 Local Transport Network .....	5
3.1.3 Open ground / Agricultural.....	5
3.1.4 Residential .....	5
3.1.5 Allotment Gardens.....	5
3.1.6 Recreational .....	6
3.1.7 Surface Water Features .....	6
3.2 Geology.....	6
3.3 Hydrogeology .....	6
3.3.1 Aquifer Designations .....	6
3.3.2 Source Protection Zones .....	6
3.4 Hydrology.....	6
3.5 Ecological Receptors.....	6
3.5.1 European/Internationally Designated Sites .....	6
3.5.2 Nationally/Locally Designated Sites.....	7
3.6 Cultural and Heritage Receptors .....	7
3.6.1 Listed Buildings .....	7
3.6.2 Scheduled Monuments.....	7
3.6.3 Identified Receptors .....	7
3.7 Windrose.....	9
<b>4.0 Environmental Risk Assessment</b> .....	<b>10</b>
4.1 Accidents.....	10
4.2 Noise & Vibration.....	16
4.3 Fugitive Emissions .....	21



**5.0 Conclusion..... 1**

## **Tables in Text**

Table 1-1: List of Additional waste types ..... 2  
Table 2-1: Scope of Risk Assessment..... 3  
Table 3-1: Surrounding Land Uses..... 5  
Table 3-2: Receptors..... 8  
Table 4-1: Accidents Risk Assessment and Management Plan ..... 11  
Table 4-2: Noise & Vibration Risk Assessment and Management Plan ..... 17  
Table 4-3: Fugitive Dust Emissions Risk Assessment and Management Plan ..... 22

## **Figures in Text**

Figure 3-1: London City Station, 2015 - 2019..... 9



## 1.0 Introduction

SLR Consulting Ltd (SLR) has been instructed by S. Norton & Co Limited (S Norton) to prepare an Environmental Permit (EP) variation application for the Metal Recycling Facility (Ref: EPR/CB3807HV) (the Permit) for their Barking facility located at 72/76 River Road, Barking, Essex, IG11 0DS (the Site). The proposed changes include additional waste codes, the storage of hazardous waste types above 50 tonnes at any one time as a new installation activity and the processing of Large Domestic Appliances (LDA) as a new WEEE treatment activity.

A separate EP for the adjacent area to the Site (the Western Area) was transferred to S Norton in February 2019 (Ref: EPR/DB3639RX). The Western Area is already included within the marked 'Site Plan' in Schedule 7 of the Permit, and both permits are authorised to carry out the receipt, storage and handling/processing of ferrous and non-ferrous (NF) material for recovery. However, the two permits were not formally consolidated. Therefore, in addition to the EP variation for the Permit, which will be regulated as an Industrial Emissions Directive (IED) 'installation', S Norton wish to consolidate the two EPs into one to cover the entire metal recycling operations.

This document provides an Environmental Risk Assessment for the proposed activities at the Site, namely the additional activity for the processing of non-hazardous LDAs, the additional waste codes to be accepted which will increase the storage of hazardous waste to above 50 tonnes at any one time and for the consolidation of the 2 permits into 1.

### 1.1 Methodology

This Environmental Risk Assessment (ERA) has been prepared in support of the permit application and has been undertaken in accordance with the Environment Agency (EA) guidance *Risk assessments for your environmental permit*<sup>1</sup> (2016). The purpose of the assessment is to identify any significant risks that may affect receptors and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

This ERA uses the following approach, as set out in the EA's guidance, for identifying and assessing the risks from the proposed PFA processing facility:

- Step One** Identify and consider risks for your Site and the sources of the risks;
- Step Two** Identify the receptors at risk from the Site;
- Step Three** Identify the possible pathways from the sources of the risks to the receptors;
- Step Four** Assess the risks relevant to your specific activity and check they are acceptable and can be screened out;
- Step Five** State what you will do to control risks if they are too high; and
- Step Six** Submit your risk assessment as part of your application.

### 1.2 Proposed Changes

#### 1.2.1 Consolidation of the 2 permits

A separate EP for the Western Area adjacent to the Site was transferred to S Norton in February 2019 (Ref: EPR/DB3639RX) and S Norton wish to consolidate this with the main Site so that there is only one EP to cover the entire metal recycling operations. Therefore,

---

<sup>1</sup> <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit> accessed March 2023



this variation application seeks to consolidate the bespoke environmental permit (Ref: EPR/CB3807HV) with the adjacent Standard Rules permit (Ref: EPR/DB3639RX) into one Installation permit. This will be achieved by varying the designated bespoke permit to include the Standard Rules permit.

The Western Area already includes activities for the sorting and handling of hazardous waste and the area will continue to be used predominantly for the handling and processing of NF materials in the open structured warehouse buildings. There is no change to the existing activities under the adjacent permit apart from the sorting and handling of some additional waste types (see below section 1.2.2 and 1.2.3).

As a result of the consolidation of the 2 permits, S Norton wish for the tonnages of the 2 EPs to be added together. Therefore, the new combined tonnage of the consolidated permit will be 275,000 tonnes.

### 1.2.2 Additional Waste Types

S Norton require some new waste codes to be included in the permit. Table 1-1 below presents the additional lists of wastes that will be accepted as part of the proposed changes in the permit.

Both permits that are being consolidated as part of this EP variation are already permitted to handle NF metals and have appropriate provisions in place for safe storage and handling. Operatives will ensure the different types of waste will not be mixed and are segregated appropriately. Operating techniques in accordance with Best Available Techniques (BAT) are included in the BAT-OT document submitted with this application (SLR ref. 416.064707.00001\_BATOT).

These additional waste types will only be subject to sorting and grading, with the exception of LDA which will be sorted and treated in the existing shear as described further below.

**Table 1-1: List of Additional waste types**

Waste Description	EWC Code	EWC Code Description
Cast iron brake discs	16 01 12	brake pads other than those mentioned in 16 01 11
ELV wiring looms	16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
Electric motors	16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
Cables containing hazardous substances	17 04 10*	cables containing oil, coal tar and other hazardous substances
LDAs	20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35

### 1.2.3 Temporary Storage of Hazardous Waste

The proposed change in the permit to store hazardous waste types above 50 tonnes at any one time will require facility to be permitted and regulated as an IED 'installation' rather than a waste operation under *Section 5.6 Part A(1) (a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections...5.3*



### 1.2.4 Processing of WEEE

S Norton also require the additional activity to process WEEE (in the form of non-hazardous LDAs) to make them easier to handle, store and transport in order to facilitate their onward recovery. Following processing through the LeFort shear the processed LDA's will be transferred into a separate storage bay for temporary storage prior to bulk transport to S Norton's AATF site in Liverpool where it is treated through a shredding and downstream separation process.

## 2.0 Identifying the Risks

This section considers the potential risks to the environment listed in the EA's guidance to identify those which will apply to the proposed new activities and which require assessment, and to screen out those which are not relevant.

The EA Guidance identifies the potential risks that may require assessment for 'most sites' as follows:

- any discharge, for example sewage or trade effluent to surface or groundwater;
- accidents;
- odour (not for standalone water discharge and groundwater activities);
- noise and vibration (not for standalone water discharge and groundwater activities);
- uncontrolled or unintended ('fugitive') emissions, for which risks include dust, litter, pests and pollutants that should not be in the discharge;
- visible emissions, e.g. smoke or visible plumes; and
- release of bioaerosols, for example from shredding, screening and turning, or from stack or open point source release such as a biofilter.

In addition, the EA guidance identifies risks from specific activities for which additional risk assessments must be completed depending on the activity being carried out and where substances are released or discharged into the environment. The EA guidance *Risk assessment for installations, waste and mining waste operations and landfill sites* indicates that no additional risk assessments will be required for the proposed changes to this Site or for the consolidation of the two permits.

Table 2-1 provides a summary of the risks for the additional activity and waste codes and consolidation of the 2 permits into 1 described in section 1.2, identifying those that can be screened out as not relevant (grey shaded) and the type of risk assessment carried out for those that are identified as relevant.

**Table 2-1: Scope of Risk Assessment**

Risk Type	Relevant	Justification	Type of Risk Assessment
Air emissions	No	No existing or new point source emissions to air as a result of the proposed changes	Not required
Global Warming Impact	No	No direct releases of CO <sub>2</sub>	Not required
Groundwater	No	No direct or indirect releases to groundwater from the proposed changes	Not required



Risk Type	Relevant	Justification	Type of Risk Assessment
Surface Water	No	No release of process effluent to sewer	Not required
Accidents and Incidents	Yes	Processing of new WEEE waste stream etc.	Qualitative
Odour	No	Proposed new waste codes and activities would not lead to fugitive emissions to air of odorous compounds	Not required
Noise & Vibration	Yes	Use of mechanical equipment for the processing of LDAs	Qualitative
Fugitive emissions	Yes	Emissions to air of dust from the additional activity	Qualitative
Visible emissions	No	No visible plume or emissions as a result of existing or proposed activities on Site	Not required
Bioaerosols	No	None emitted	Not required

### 3.0 Site Setting and Receptors

This section identifies the potentially sensitive receptors in the vicinity of the Site that could be harmed (at potentially significant risk) by emissions from the proposed additional activities within the metal recycling facility.

The guidance<sup>1</sup> requires all receptors that are near the Site and could reasonably be affected by the proposed activities to be identified and considered as part of the ERA. The following distances have been used to identify the relevant receptors:

- a 2km radius for SSSIs and other sites of cultural and ecological; and
- a radius of 500m from the proposed permit boundary has been adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors).

#### 3.1 Site Setting

The Site is centred on National Grid Reference TQ 45852 81666, located at 72-76 River Road, Barking, Essex as shown on Drawing 01 Site Location Plan and is approximately 4.3km to the south west of Dagenham town centre, and 2.86km to the south east of Barking town centre. The Site is accessed via a track approximately 100m off River Road which is included in the permitted area.

The Site is located within a predominantly industrial area and is bordered to the west and east by two other waste processing sites. Several existing industrial premises are located off River Road to the north and east and an open ground of both a hard surfaced and grassland nature lies further to the west. River Road lies immediately adjacent to the north and the River Thames lies immediately adjacent to the south with a quay along this perimeter. This provides a berth for vessels to ship material to S Norton’s other metal recycling facility in Southampton.

The Site is located within Barking & Dagenham Air Quality Management Area (AQMA) for Nitrogen Dioxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub>).

There is one statutory protected Local Nature Reserve and one Local Wildlife Site within 2km of the Site. The Nature and Heritage Conservation screening report (Appendix 01) also





confirms that there are several Protected Fish Migratory Routes in the River Thames within 500m to the south of the Site and one Protected Habitat (Coastal Saltmarsh) which lies within 50m to the west and east of the Site.

The Site is circa 1.87 hectares in size and roughly rectangular with a narrow entrance/exit section leading to River Road. The immediate land uses are shown in Table 3-1 below.

**Table 3-1: Surrounding Land Uses**

Boundary	Description
North	Hospitality (restaurants), commercial and industrial properties, local road network (River Road) and an open space with small surface water feature beyond
East	Commercial and industrial properties, local road network (River Road)
South	River Thames
West	Industrial property adjacent. Green open space (Creekmouth Open Space), the River Roding Confluence, Barking Creek Barrier (tidal barrier) and Beckton Sewage Treatment Works further beyond

The surrounding land uses and receptors within 500m are identified on Drawing 03 Site Setting & Receptors Plan. Cultural and Natural Heritage receptors and European designated sites within 2km are identified on Drawing 04 Cultural and Natural Heritage Receptors.

The immediate surrounding land use is described in detail below.

### 3.1.1 Commercial and Industrial

Commercial and industrial premises lie adjacent to the permit boundary in the north, west and east.

### 3.1.2 Local Transport Network

River Road lies immediately adjacent to the north and east and provides access to the Site. Other local road networks include roads to commercial and industrial premises including Atcost Road approximately 250m to the north east and other unnamed roads to commercial and industrial premises to the north and an unnamed road for access to the Barking Creek Barrier to the west.

### 3.1.3 Open ground / Agricultural

There is no agricultural land within 500m of the permit boundary.

### 3.1.4 Residential

Currently, there are no residential properties within 500m of the permit boundary in all directions. The nearest residential properties lie approximately 580m north east of the permit boundary.

Plans have been approved however for some new residential premises to the north of the Site as part of a collaborative housing development known as Barking Riverside. The nearest homes to the Site will be located approximately 400m to the north; however, most of the Barking Riverside development will be located on the former Barking Power Station site to the east of the Site and will lie more than 500m from the Site boundary.

### 3.1.5 Allotment Gardens

There are no designated allotments within 500m of the permit boundary.



### 3.1.6 Recreational

Creekmouth Open Space is located approximately 200m to the west of the permit boundary. There are no other existing recreational facilities within 500m of the Site's boundary apart from the creation of a green space approximately 400m to the north for the Barking Riverside housing project.

### 3.1.7 Surface Water Features

The River Thames lies immediately adjacent to the south of the permit boundary and the River Roding Confluence lies approximately 120m to the west of the permit boundary at the nearest point which features Barking Creek Barrier. There is an unnamed small surface water feature approximately 380m to the north of the permit boundary.

## 3.2 Geology

A review of the British Geological Survey (BGS) map<sup>2</sup> reveals that the site is underlain by bedrock of Thanet Formation, comprising of sedimentary rock which formed between 59.2 and 56 million years ago during the Palaeogene period.

## 3.3 Hydrogeology

### 3.3.1 Aquifer Designations

The bedrock underlying the Site is classified as an unproductive Aquifer. The superficial deposits are also classed as unproductive on the Multi-Agency Information for the Countryside (MAGIC)<sup>3</sup> website.

### 3.3.2 Source Protection Zones

There are no Source Protection Zones (SPZs) within 2km of the site boundary.

## 3.4 Hydrology

The Groundwater Vulnerability layer on the MAGIC map reveals that the Site lies within an area of Medium – High soluble rock risk groundwater vulnerability.

The Site lies within a Flood Zone 4 and therefore has a high probability of flooding from rivers and the sea<sup>4</sup>. However, there is no change to the risk of flooding from rivers and the sea as a result of the proposed changes in the permit.

## 3.5 Ecological Receptors

### 3.5.1 European/Internationally Designated Sites

**A search of MAGIC Map confirms that none of the following designated sites lie within the 2km of the site boundary:**

- Sites of Special Scientific Interest;
- RAMSAR;

---

<sup>2</sup> British Geological Survey, Available at [www.bgs.ac.uk](http://www.bgs.ac.uk), accessed in March 2023

<sup>3</sup> Multi-Agency Information for the Countryside – Available at: <http://www.magic.gov.uk>, accessed in March 2023

<sup>4</sup> Flood Map for Planning <https://flood-map-for-planning.service.gov.uk>, accessed March 2023



- Special Protection Areas; or
- Special Areas of Conservation.

### **3.5.2 Nationally/Locally Designated Sites**

A review of MAGIC Map identified one Local Nature Reserve (LNR) which lies within 2km of the site boundary (shown on Drawing 04):

- Ripple (approximately 1.16km north east of the Site's boundary)

A review of the Nature and Heritage Conservation screening report (Appendix 01) confirms that there is one Local Wildlife Site (LWS) which lies within 2km of the site boundary as shown on Drawing 04:

- River Thames and tidal tributaries (immediately adjacent to the south and further to the west)

The Nature and Heritage Conservation screening report also confirms that there are several Protected Fish Migratory Routes in the River Thames within 500m to the south of the Site and one Protected Habitat (Coastal Saltmarsh) which lies within 50m to the west and east of the Site.

Searches on the MAGIC Map confirmed there are none of the following within 2km of the permit boundary:

- Areas of Outstanding Natural Beauty (AONB);
- National Nature Reserves (NNR);
- National Parks;
- RSPB Reserves;
- Ancient Woodland; or
- Biosphere Reserves.

## **3.6 Cultural and Heritage Receptors**

### **3.6.1 Listed Buildings**

The review of the MAGIC map reveals one listed building 'Chimney to Beckton Sewage Works' within 2km of the Site's boundary as illustrated on Drawing 04, which lies approximately 660m to the west of the permit boundary.

### **3.6.2 Scheduled Monuments**

The search on MAGIC confirms that none of the following features lie within 2km of the Site:

- Scheduled Monuments;
- Registered Parks and Gardens;
- World Heritage Sites; or
- Registered Battlefields.

### **3.6.3 Identified Receptors**

Local receptors within 500m of the Site are recorded in Table 3-2, along with natural and cultural receptors within 2km.



**Table 3-2: Receptors**

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary (at nearest point) (m)
<b>Local receptors within 500m of the Environmental Permit Boundary as shown on Drawing 03 Environmental Site Setting</b>			
River Thames	Surface Water Feature	South	Adjacent
MSK Waste Management & Recycling	Commercial/Industrial	North	Adjacent
Multi Services Kent	Commercial/Industrial	North	Adjacent
Suez Recycling & Recovery Ltd	Commercial/Industrial	West	40m
MixIt (concrete supplier)	Commercial/Industrial	East	40m
River Road	Local Transport Network	North	60m
River Restaurant	Hospitality	North	90m
KWS Imports (fabric wholesaler)	Commercial/Industrial	North	90m
Unnamed local roads (x2)	Local Transport Network	North	110m - 190m
River Roding Confluence	Surface Water Feature	West	120m
Unnamed local road to Barking Creek Barrier	Local Transport Network	West	160m
Armstrong York Asbestos Environmental Limited	Commercial/Industrial	East	180m
Buzzard Creek Industrial Estate	Commercial/Industrial	North east	190m
Atcost Road	Local Transport Network	North east	190m
London City Bond (warehouse)	Commercial/Industrial	North west	195m
Creekmouth Open Space	Open Ground	West	200m
Keep Green Ltd / JAC SKIP HIRE LTD	Commercial/Industrial	North east	225m
Cranbrook Wines	Commercial/Industrial	North	250m
McGrath (Waste Collection Service)	Commercial/Industrial	North west	280m
ID Taxi Centre	Commercial/Industrial	North	300m
Mallys kitchen	Hospitality	North	320m
Lucian Balint (Waste Management Service)	Commercial/Industrial	North west	370m
Unnamed surface water	Surface Water Feature	North	380m
Barking Riverside (currently being developed)	Residential	North	400m
Aroma Ice Cream Co Ltd	Hospitality	North	410m

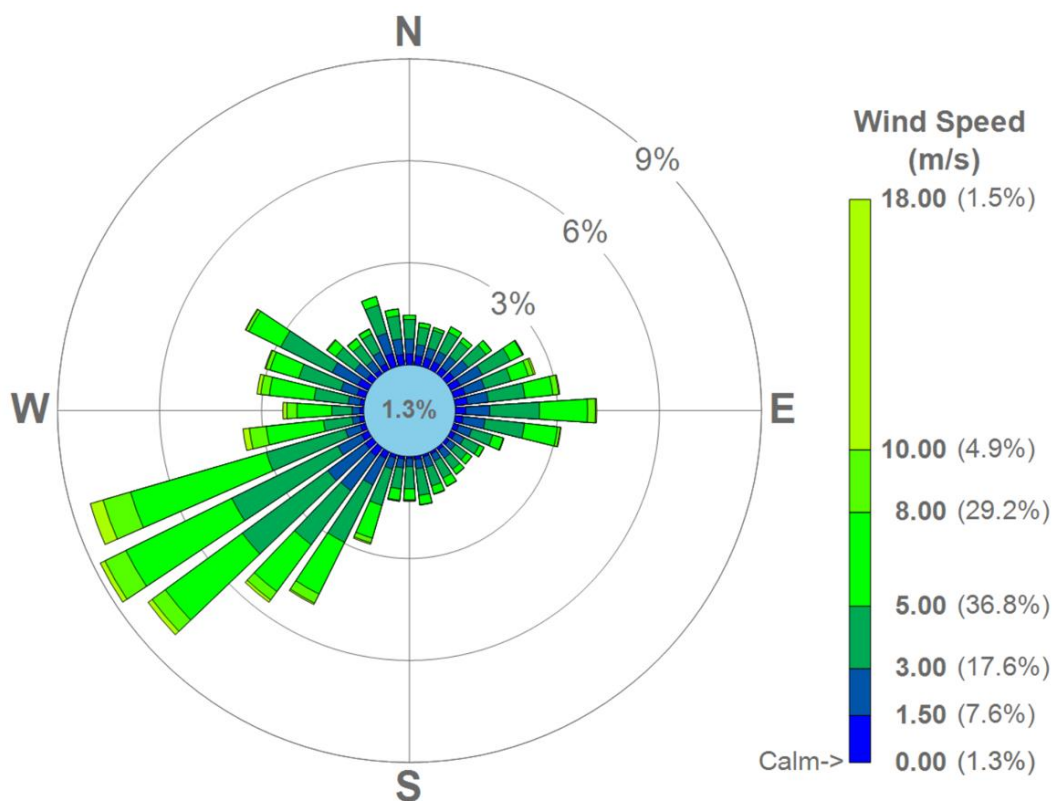


Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary (at nearest point) (m)
Boleyn Recovery & Fleet Services	Commercial/Industrial	North	440m
<b>Cultural and ecological receptors within 2km of the EP boundary as shown in Drawing 04 Cultural and Natural Heritage</b>			
River Thames and tidal tributaries	Local Wildlife Site (LWS)	South	Adjacent
Coastal Saltmarsh (River Thames)	Protected Habitat	South	Adjacent
Chimney to Beckon Sewage Works	Grade II Listed Building	West	660m
Ripple	Local Nature Reserve (LNR)	North east	1160m

### 3.7 Windrose

A wind rose from London City Station, located approximately 3.7km southwest, providing the frequency of wind speed and direction from 2015 - 2019 is presented in Figure 3-1 below. The wind rose shows that winds from the southwest are significantly most frequent and to a much lesser extent winds from the northwest and east. Winds from the north, north east and south, south east are less frequent.

**Figure 3-1: London City Station, 2015 - 2019**



## 4.0 Environmental Risk Assessment

This section considers the potential pathways between source and receptor and where appropriate, the assessment demonstrates how the risk of pollution or harm can be mitigated by measures to manage these risks and/or block the pathways. An assessment in terms of hazards posed, receptors and pathways, along with management and residual risks for the following hazards is presented for each of the four proposed changes to the activities, in accordance with the risks identified in Table 2-1 of this report.

The following impacts posed by the proposed changes in the variation have been identified as requiring assessment (see Table 2-1):

- Accidents;
- Noise & Vibration; and
- Fugitive Emissions.

### 4.1 Accidents

The potential consequences from accidents and mitigation of risks is provided in Table 4-1. It is considered that the mitigation measures proposed for the new activity in the form of the acceptance/processing of LDAs, the acceptance of the additional waste codes and consolidation of the 2 permits will mean that the risk of impacts from accidents on receptors will be low



**Table 4-1: Accidents Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains?
<p>Unauthorised waste receipt and processing: Unconforming waste that may lead to potential harm to operatives or the environment.</p>	<p>Local land quality, surface water and groundwater</p>	<p>Runoff and percolation through ground</p>	<p>Unauthorised waste receipt and processing is identified as a potential accident risk associated with the proposed acceptance of the additional waste types.</p> <p>Staff will continue to be vigilant for any wastes that do not conform to the waste types that are currently permitted for acceptance and any new waste types as part of the permit variation. Spill kits are already deployed around site, including on the Western Area of the adjacent permit. Site staff will continue to undertake daily monitoring for evidence of spillage and leakage from any potentially unconforming wastes. Minor spillages will be cleaned up immediately, using sand or proprietary absorbent to clean up liquids and placed in alternative containers.</p> <p>The Site already benefits from impermeable surfacing throughout and a sealed drainage system as illustrated in Drawing 02. The site drainage system incorporates provision for containment and isolation to prevent discharge to foul sewer. The containment measures in place at the Site are described in Section 6 of the Operating Techniques (Ref: 416.064707.00001_OT).</p>	<p>Low</p>	<p>Contamination of land, groundwater and surface water</p>	<p><b>Not significant</b></p>



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>These measures will ensure that there is no run-off and percolation through ground to nearby receptors including Coastal Saltmarsh (screened Protected Habitat) and River Thames and tidal tributaries LWS. The proposed changes in the permit will not require changes to existing provisions. The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>			
<p>Equipment or containment failure – releases to air &amp; site drainage</p>	<p>Local land quality, surface water and groundwater</p>	<p>Runoff and percolation through ground. Release to sewer; Air</p>	<p>Equipment failure is identified as a potential accident risk associated with the processing of LDAs via the shear. Appropriate controls for this existing piece of plant are already in place as detailed below. S Norton utilise a Combined Management Maintenance System (CMMS) to log findings of maintenance inspections. The existing plant used for the processing of LDAs will continue to be maintained regularly and be subject to application of the CMMS and a programme of planned preventative maintenance. The CMMS will follow an inspection &amp; maintenance schedule recommended by the manufacturer. The site drainage system incorporates provision for containment and isolation to prevent discharge to foul sewer. The containment measures will ensure that there is no run-off and percolation through ground to nearby receptors including the River Thames and tidal tributaries LWS. The</p>	<p>Low – due to preventative management measures in place</p>	<p>Contamination of land, groundwater and surface water</p>	<p><b>Not significant</b></p>





What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>proposed changes in the permit will not require changes to existing provisions. S Norton have contingency measures in the unlikely event of plant failure with regard to handling arrangements. A dedicated document 'Business Continuity Plan' is part of the Site's IMS, which ensures S Norton comply with permit conditions and operating procedures during maintenance or shutdown at the Site due to unforeseen circumstances. Refer also to Section 14 in the OT document (Ref: 416.064707.00001_OT) that details the Sites contingency measures.</p> <p>In events of planned or unplanned shutdown where waste cannot be stored on Site, in the short term, measures are in place so that waste can be diverted back to its source. The Site Manager or acting person of authority would ensure that the Site is closed and communicate with the holder of the waste so it could be diverted back to its source or to a suitable authorised alternative facility. S Norton has access to a large number of HGVs which could be brought into the site to take it up to Manchester or Liverpool.</p> <p>If the Site cannot accept waste for more than a day or two, then the Site Manager would ensure arrangements are in place in place to allow incoming waste to be diverted to another S Norton metal recycling facility in either Manchester (Trafford Park) or Liverpool (Bankfield). These options can take</p>			



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>materials at short notice until operations return to normal.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>			
<p>Fire – emissions to air and run-off of fire-water</p>	<p>Nearby hospitality premises, commercial/industrial premises and residential (currently being developed approx.. 400m to the north of the Site) and Ripple LNR.</p> <p>Surface water feature namely the River Thames (including the River Thames and tidal tributaries LWS and Coastal Saltmarsh Protected Habitat) and the River Roding.</p>	<p>Air (smoke) Ground inc. surface and groundwater (spillages and firewater)</p> <p>Surface water (via sewer).</p>	<p>The LDAs will be processed using existing equipment i.e., the LeFort shear. Existing appropriate controls for this plant are already in place; it will continue to be maintained regularly and be subject to a programme of planned preventative maintenance which will follow the inspection and maintenance schedule recommended by the manufacturer.</p> <p>The additional waste types to be accepted will be handled and segregated accordingly (as illustrated on Drawing 02. The NF materials will continue to be handled in the warehouses and shed, which are open, well-ventilated buildings with no enclosed spaces.</p> <p>The additional new wastes accepted will be stored in accordance with the operating techniques detailed in Section 4 of the OT document (Ref. 416.064707.00001_OT). The FPP has provisions in place to ensure the processing of LDAs and associated plant and infrastructure is managed as in accordance with the appropriate procedures and considers plant maintenance, fire detection and suppression, water supply and the management of fire water.</p> <p>Suppression from nearby fire monitors and regular housekeeping including monitoring</p>	Low	Harm and nuisance	



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>from Site personnel will ensure that the additional processing of the LDAs does not carry any additional fire risk.</p> <p>The FPP considers the amount of waste stored on site at any one time with specified storage amounts and durations. There is no change to the throughput of waste or storage arrangements of the waste types that are currently permitted. There will be some additional storage locations and handling procedures as a result of the additional processing of LDAs and acceptance of new waste codes. These are explained in Section 4 of this OT and illustrated on Drawing 02.</p> <p>Containment for all the hazardous waste types including waste containing hazardous material or fluids will either be in an enclosed structure with a roof or include the use of weatherproof covering. This will also apply to the storage of the additional hazardous waste types including the ELV wiring looms and cables containing hazardous substances.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>			



## 4.2 Noise & Vibration

S Norton recognises that the Site should be operated in a manner that minimises or prevents noise and / or vibration nuisance. The proposed additional activity as part of the proposed changes in the permit in the form of the acceptance and processing of LDAs via existing plant has the potential to increase noise & vibration from the Site. However, existing controls and mitigation measures will be employed in order to ensure that the risk to receptors that may be affected is minimised and these are deemed to be sufficient for the additional processing of LDAs. There will be no change to the potential for noise & vibration to increase from storage and sorting of the other additional waste types or consolidation of the two permits.

A qualitative assessment of potential noise impact is provided in Table 4-2 which assesses the probability of exposure in terms of the likelihood of the receptors being exposed to the hazard



**Table 4-2: Noise & Vibration Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains?
Operation of existing equipment as part of the new activity in the form of the processing of LDAs, via LeFort shear plant.	Nearby hospitality premises, commercial/industrial premises and residential (currently being developed approx.. 400m to the north of the Site).	Air	<p>The proposed additional processing of LDAs including treatment via the shear is not expected to significantly change the risk of noise &amp; vibration from the facility. The following measures are already in place: Plant and equipment options with lower noise levels will be used wherever possible to ensure noise is kept to a minimum. Plant and equipment will continue to be maintained regularly and be subject to a programme of planned preventative maintenance which will follow the inspection and maintenance schedule recommended by the manufacturer. This will include corrosion prevention where applicable to minimise noise resulting from deterioration and inefficient operation.</p> <p>All maintenance is recorded and scheduled via the CMMS. Inspection will be undertaken on a daily basis, before use, to check for faults and to ensure appropriate safeguards are in place.</p> <p>Any faults are recorded on the CMMS and actioned accordingly. If any items of plant are found to give rise to unacceptable noise levels, consideration will be given to their</p>	Low	Nuisance and health risk to human receptors during operational hours	<b>Not significant</b>



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>replacement with quieter designs. If equipment continues to generate unacceptable noise levels, consideration will be given to modification to incorporate noise suppression equipment or replacement components.</p> <p>Currently, there are no residential properties within 500m of the permit boundary in all directions. The nearest residential properties lie approximately 580m north east of the permit boundary. Plans have been approved however for some new residential premises to the north of the Site as part of a collaborative housing development known as Barking Riverside. The nearest homes to the Site will be located approximately 400m to the north; however, most of the Barking Riverside development will be located on the former Barking Power Station site to the east of the Site and will lie more than 500m from the Site boundary. Existing controls and mitigation measures will be employed in order to ensure that the risk to receptors that may be affected is minimised. It is deemed that these existing measures would be satisfactory in order to ensure that the risk to receptors that may be affected by the proposed changes in the permit is minimised.</p> <p>The combined throughput for the 2 permits is not changing and S Norton will ensure they operate to the operating techniques stipulated in the new consolidated permit. In the event that noise is found to be causing a problem, action will be taken to determine</p>			



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>the source and to take remedial actions, including repair of the equipment to reduce noise levels or modification to the plan to incorporate noise suppression equipment or possible shut down of the plant.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>			
<p>Vehicle movements from the transfer of LDAs and the other additional waste types to the Site for storage and/or processing.</p>	<p>Nearby hospitality premises, commercial/industrial premises and residential (currently being developed approx.. 400m to the north of the Site).</p>	<p>Air</p>	<p>The Site is located within a predominantly industrial area and is bordered to the west and east by two other waste processing sites. Acceptance of new waste types and vehicle movements from the transfer of the new waste types to/from the Site is not expected to significantly change the risk of noise &amp; vibration from the facility. The combined throughput for the 2 permits is not changing and there will not be a significant change in the number of vehicle movements to/from the Site.</p> <p>The Site will follow existing mitigation measures as listed in the Operating Techniques document ((Ref: 416.064707.00001_OT) to ensure that the risk of impact to receptors that may be affected is minimised.</p> <p>The Site will continue to operate between the hours 06:00 and 17:00, Monday to Friday and 06:00 to 12:00 on Saturday except for maintenance periods. The Site will not operate Sundays or bank holidays except for emergencies.</p> <p>S Norton vehicles are routinely serviced. If any S Norton vehicles are found to give rise</p>	<p>Low</p>	<p>Nuisance and health risk to human receptors during operational hours</p>	<p><b>Not significant</b></p>



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>to unacceptable noise levels, they will be reported to the Site Manager.</p> <p>The Site Manager is responsible to ensure that there is the availability of resources required to establish, implement and maintain the competence management system. This includes appropriate training, where drivers are trained to reducing idling times where possible and each of S Norton vehicles are remotely monitored for idling time.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the OT.</p>			





### **4.3 Fugitive Emissions**

Uncontrolled or unintended emissions may arise from the new activity in the form of the acceptance/processing of LDAs. The EA's guidance states that these may include dust, litter, pests and pollutants that should not be in the discharge.

A qualitative assessment of fugitive emissions risk is provided in Table 4-3 which assesses the probability of exposure in terms of the likelihood of the receptors being exposed to the hazard.



**Table 4-3: Fugitive Dust Emissions Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains?
<b>To Air:</b>						
Dust from: Handling of new waste types including transfer and processing operations (via sorting and grading).  Dust from: Vehicle movements from the transfer of the new waste types.	Nearby hospitality premises, commercial/industrial premises and residential (currently being developed approx.. 400m to the north of the Site).	Air	The Site will operate under a Dust & Emission Management Plan (DEMP) that includes appropriate measures and procedures to prevent emissions of dust and particulates. The DEMP demonstrates how the Site will control fugitive emissions from existing site activity and the proposed changes in the permit. The DEMP is included in section 7 of this application.  There are no point source emissions to air associated with the handling of new waste types including storage or the vehicle movements from the transfer of the new wastes.  Potential sources of fugitive emissions of dust as a result of the acceptance of new waste types are associated with the handling, storage and transfer of the new waste types that may contain incidental amounts of small particles including dust. Cast iron disc brakes and electric motor will be directed to appropriate containers which have sides, and the cables and wiring loom will be directed to	Low	Dust nuisance	<b>Not significant</b>



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>the appropriate enclosed containers which are covered to prevent rainwater ingress.</p> <p>The new waste types have not been exposed to any pre-treatment activities and as a result will unlikely have the potential to contain small, incidental amounts of residual dust. Visual inspections will continue to be carried out of waste loads accepted at the Site to ensure no gross contamination is evident</p> <p>Only waste that conforms to permitted waste types will be accepted. There is no change to the nature of the incoming waste which are either ferrous or NF metals.</p> <p>Water cannons will be used on site surfaces or stockpiles to manage fugitive emissions which may occur over large areas. The cannons are strategically placed around the Site close to processes that may produce small amounts of particulates or dust, with a cannon adjacent to each of the shears (LeFort and Henschel). This will provide adequate suppression to the area of the Site that will be used for the storage and processing of LDAs.</p> <p>A number of measures are already in place to minimise the risk of dust emissions during the handling, storage, processing and transfer of wastes, and it is considered that these would be satisfactory for acceptance of the new waste types. These include:</p> <ul style="list-style-type: none"> <li>• Waste that arrives is within sheeted or enclosed vehicles, if possible, to ensure no escape of dust during transit;</li> <li>• Prior to processing waste is stored in dedicated external storage bays which will</li> </ul>			



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>minimise the mobilisation of dust (if any is present);</p> <ul style="list-style-type: none"> <li>• Drop heights and double handling of materials are kept to a minimum; and</li> <li>• Site access roads are maintained and swept regularly to reduce dust generation.</li> </ul> <p>In addition, the following operational measures are in place:                      All plant and equipment will be subject to a programme of planned preventative maintenance which will follow the inspection and maintenance schedule recommended by the manufacturer.                      The Site will be kept clean and tidy by way of a regularised housekeeping regime Daily inspections for dust, litter and combustible material will be recorded on S Norton's daily noise, vibration and dust inspection checklist (EF-4.4.6-01). Sweeping of surfaces and dampening where appropriate will be undertaken as necessary in response. No dusty wastes will be received at the Site. Waste acceptance checks will be undertaken prior to acceptance of any waste on to the Site.                      Traffic calming measures are implemented to enforce speed limits and reduce emissions of dust. Speed limits will be implemented for vehicles on Site. Site surfacing will be maintained and repaired to minimise the mobilisation of dust particles.                      In the event that dust is detected, investigations will be undertaken to determine the cause and appropriate remedial action.</p>			



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>In the event that non-conforming wastes are delivered to the Site, they will be returned on the delivery vehicle or placed in one of the two quarantine areas.</p> <p>Existing dust suppression measures will continue to be used on stockpiles, including the use of water cannons.</p> <p>Plans have been approved for some new residential premises to the north of the Site as part of a collaborative housing development known as Barking Riverside. The nearest homes will lie approximately 400m to the north. However, existing measures as described above will be employed in order to ensure that the risk to receptors that may be affected is minimised. It is deemed that these existing measures would be satisfactory in order to ensure that the risk to receptors that may be affected by the proposed changes in the permit is minimised.</p> <p>The above measures are summarised in the DEMP included in Section 7 of this application.</p> <p>Other fugitive emissions other than the potential for dust are unlikely due to nature of the waste that will continue to be accepted on site and the type of treatments that are limited to shearing/cutting. There will continue to be no shredding activities at the Site.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>			



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Dust from: the additional activity in the processing of LDAs via the shear.	Nearby hospitality premises, commercial/industrial premises and residential (currently being developed approx.. 400m to the north of the Site).	Air	<p>There are no point source emissions to air associated with the additional activity to process LDAs.</p> <p>Potential sources of fugitive dust emissions are associated with the processing of LDAs via an existing shear that may contain incidental amounts of small particulates including dust. It is anticipated that the risk of fugitive dust emissions from the processing of LDAs will be low which are typically non-dusty and will arrive at the Site without being exposed to any pre-treatment activities.</p> <p>Water cannons will be used as a form of suppression on site surfaces or stockpiles including LDAs to manage fugitive emissions. Regular housekeeping will continue including monitoring from Site personnel. Daily inspections for dust will be recorded on S Norton's daily noise, vibration and dust inspection checksheet (EF-4.4.6-01). Dampening including water suppression using the water cannons will be undertaken as necessary in response.</p> <p>The above measures are summarised in the DEMP included in Section 7 of this application.</p> <p>Other fugitive emissions other than the potential for dust are unlikely due to the nature of the waste accepted on site and the type of treatments that are limited to shearing/cutting. The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>	Low – due to preventative management measures in place	Dust nuisance	<b>Not significant</b>



What do you do that can harm and what could be harmed		Managing the Risk		Assessing the Risk		
<b>To Water:</b>						
Runoff from the Site surfaces	Surface water features namely the River Thames (including the River Thames and tidal tributaries LWS and Coastal Saltmarsh Protected Habitat) and the River Roding.	Land and surface water	<p>Discharges to sewer are limited to uncontaminated surface water runoff from rainfall and sanitary effluent (sinks, toilets, cleaning water, etc).                      The Site benefits from impermeable surfacing and a sealed drainage system which discharges to sewer. All waste including the proposed additional waste types (LDAs etc) will be stored on impermeable ground with a sealed drainage system as illustrated in Drawing 02.</p> <p>Containment for all the hazardous waste types including waste containing hazardous material or fluids will either be in an enclosed structure with a roof or include the use of weatherproof covering to prevent the ingress of water and runoff from its storage.</p> <p>The site drainage system incorporates provision for containment and isolation to prevent discharge to foul sewer. An inflatable bung would be inserted into one or both of the interceptor outflows, therefore, isolating any contaminated water. Any contaminated surface water will be contained and tested prior to any release into the foul sewer system only once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer.</p> <p>The containment measures in place at the Site are described in Section 6 of the Operating Techniques (Ref: 416.064707.00001_OT).</p>	Low – due to preventative management measures in place and the waste types accepted on Site	Contamination of surrounding land and water	<b>Not significant</b>



What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
			<p>These measures will ensure there are no fugitive emissions to surface water.                      The proposed acceptance of the additional waste types and processing of LDAs via the shear will not change existing provisions.</p> <p>Due to the nature of the waste to be accepted and no change as part of the proposed changes in the permit, there will be no contaminated run off generated under normal operating conditions.</p> <p>Measures to ensure that the risk of fugitive emissions is minimised are summarised in the DEMP included in Section 7 of this application.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 416.064707.00001_OT).</p>			





## 5.0 Conclusion

This ERA has been undertaken in accordance with EA guidance in support of the environmental permit variation application for the proposed changes to the activities proposed to be carried out at the Barking Site.

The assessment has screened the risks that are relevant to the proposed changes to the facility, identified the potential receptors and provided an assessment of the risk taking into account the proposed mitigation measures.

The assessments conclude that with the implementation of the proposed risk management measures described, potential hazards from the proposed activities at the Barking Site are not likely to be significant and no further assessment is required.



