

Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services



Proposed Corbriggs Wood Processing Facility

Silva Recycling Limited

Bespoke Environmental Permit Application

Supporting Document

Prepared by:

Caulmert Limited

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Document Reference: 5448-CAU-XX-XX-RP-V-0300.A0.C1

December 2022



APPROVAL RECORD

Site: Proposed Corbriggs Wood Processing Facility

Client: Silva Recycling Limited

Project Title: Bespoke Environmental Permit Application

Document Title: Supporting Document

Document Ref: 5448-CAU-XX-XX-RP-V-0300.A0.C1

Report Status: Final

Project Manager: Andy Stocks

Caulmert Limited: Strelley Hall, Main Street, Strelley, Nottingham, NG8 6PE

Author	Samantha Hayden Environmental Consultant	Date	08/12/2022
Reviewer	Andy Stocks Director of Environment	Date	08/12/2022
Approved	Andy Stocks Director of Environment	Date	13/12/2022

Revision Log			
Revision	Description of Change	Approved	Effective Date
C1	Initial Release	AS	16/12/2022

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Supporting Document

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- Appendix 5** Air Quality Assessment ref. AIR15169915
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1.0 INTRODUCTION

1.1 Application Context

1.1.1 Silva Recycling Limited have appointed Caulmert Limited to prepare a Bespoke Environmental Permit application for a new wood processing facility off Mansfield Road, Corbriggs, Chesterfield, postcode S41 0JW.

1.1.2 Silva propose to develop the new wood processing facility at an existing industrial site and the proposed activities will be the shredding and storage of non-hazardous wood wastes prior to removal off-site, primarily for manufacturing into chip-board based products. Some recovered by-products (e.g. shredded MDF and wood fines) will be sent for combustion.

1.1.3 The documents included within this application are as follows:

- Supporting Document (this report including Non-Technical Summary and summary of the Management System)
- Application forms Part A, B2, B3 and F1
- Site Condition Report
- Amenity & Accidents Risk Assessment
- Operating Techniques & BAT Review Report
- Dust & Emissions Management Plan
- Fire Prevention Plan
- Noise Impact Assessment (from Planning Application)
- Air Quality Assessment (from Planning Application)

1.2 Document Structure

1.2.1 This Supporting Document has been prepared to provide additional information to support that provided in Parts A, B2, B4 and F1 of the environmental permit application forms for a bespoke waste operation permit.

1.2.2 To aid cross-referencing between this document and the application forms, the answers to questions are presented in the same order as in the application form and the headings in this document include the specific question number to which the information relates.

2.0 PART A – ABOUT YOU

2.1 Q5c – Details of Directors

- 2.1.1 This application is a new bespoke permit application and the relevant persons for Silva Recycling Limited are listed below. The Director's dates of birth to be kept confidential and not included on the public register and are provided in Appendix 1, attached.

Directors
Christopher Ian Emery
Benjamin John Spruce
Lisa Lloyd Williams

3.0 PART B2 – GENERAL - NEW BESPOKE PERMIT

3.1 Q1a. Discussions Before Your Application

- 3.1.1 Pre-Application Advice was received from the Environment Agency on 17th June 2022 and consisted of a Basic Advice document about permit applications and a Nature and Heritage Conservation Screen ref. EPR/LB3406MD/A001 for the site, provided in Appendix 2. The screen identified two Local Wildlife Sites within 200m of the proposed application site, called 'Grassmoor Country Park' and 'Corbriggs Marsh'.
- 3.1.2 In addition, the operator had pre-application discussions with the local Environment Agency officer to the site, Bex Barrett (Environment Officer for Sheffield & North East Derbyshire Waste Team), on Friday 10th June 2022. From these discussions it was concluded the permit application charge for the proposed activities would be covered by the 'Physical treatment of non-hazardous waste', charge activity reference 1.16.12, which for a new application is £7,930.

3.2 Q1b. Is the permit for a site or for mobile plant?

- 3.2.1 The permit being applied for is for a proposed site off Mansfield Road, Corbriggs, Chesterfield, at National Grid Reference SK 41002 68251.

3.3 Q2b. What type of regulated facility are you applying for?

- 3.3.1 The operator is applying for an environmental permit for a new bespoke waste operation at a proposed new wood processing facility involving the shredding, screening and temporary storage of wood waste, prior to sending off-site for recycling.

3.4 Q3a. Relevant Offences

- 3.4.1 The operator or any other relevant persons have not been convicted of any relevant offences.

3.5 Q3b. Technical Ability

- 3.5.1 The Technically Competent Manager for the facility is Mr Jon Arkley and his date of birth is included in Appendix 1, his certificates, including continued competence, are attached in Appendix 3.
- 3.5.2 Mr Jon Arkley does not provide technical cover for any other waste sites.

3.6 Q3c. Finances

- 3.6.1 There are no relevant persons to declare within the company that have current or past bankruptcy or insolvency proceedings against them.

3.7 Q3d. Management Systems

3.7.1 The operator has in place an Integrated Management System (IMS) structured on the ISO Annex SL framework that identifies and reduces the risk of pollution from the proposed activities at the site and complies with the relevant Environment Agency guidance on management systems. A summary of the management system is provided in Appendix 4.

3.7.2 In summary the site integrated management system will contain:

- A full maintenance schedule for all machinery and equipment on site.
- Documented procedures to control all aspects of the operation that may have an impact on the environment, including contingency and operational methods which are to be undertaken in the event that there is a plant breakdown, or activities that could lead to unacceptable emissions.
- Well documented procedures for monitoring emissions and impacts including the use of a daily site log. All monitoring will occur in accordance with the Integrated Management plans.

3.7.3 The site will undertake a preventative maintenance programme where site plant and infrastructure will be inspected on a daily, weekly and monthly basis in accordance with written procedures.

3.7.4 Training systems will be in place for all employees which will include:

- Relevant treatment activities undertaken on site;
- Management techniques to be employed for all aspects of waste treatment which are relevant to their position;
- Reporting any abnormal events;
- Contingency measures in place to prevent breaches of the Environmental Permit in the event of abnormal weather conditions; and,
- Contingency measures to be taken in the event that accidental emissions are released to the environment.

3.7.5 The operator will only appoint suitably qualified contractors, and all purchasing of equipment and materials will be undertaken in accordance with the management system.

3.8 Q5a. Provide a Plan or Plans for the Site

3.8.1 The site will be operated in a phased approach, with the initial site plan operated as the layout shown in drawing ref. '12800_004 Phase 1'. This will be for the pre-shredding of wood and limited storage of wood wastes prior to transfer off-site for recycling. Once the site is processing at a greater capacity and the temporary storage of larger volumes of wood waste is required, the operator proposes to use the site layout plan as shown in the drawing ref. '12800_004 Phase 2'. This is the proposed layout once site up to full capacity with increased

throughputs and/or storage of material to cater for seasonal demand fluctuations of inputs & outputs. Both layout plans show the locations of the weighbridge, processing area, quarantine area, storage bays, site entrances, parking areas and other site infrastructure at each operational stage.

3.8.2 The proposed site permit boundary is shown on attached drawing ref. 5448-CAU-XX-XX-DR-V-1801.

3.8.3 A Sensitive Receptor Plan ref. 5448-CAU-XX-XX-DR-V-1800 is included within the Amenity & Accidents Risk Assessment report ref. 5448-CAU-XX-XX-RP-V-0302, as part of this application.

3.9 Q5b. Provide Relevant Sections of a Site Condition/Baseline Report

3.9.1 As part of this permit application, a Site Condition Report detailing baseline conditions for the site, with reference to previous site investigations, is provided as document ref. 5448-CAU-XX-XX-RP-V-0301, included within the application documents.

3.10 Q5c. Provide a Non-Technical Summary of your Application

3.10.1 This permit application is for a new bespoke waste operation for a non-hazardous waste wood processing and transfer facility at a site on Mansfield Road, Corbriggs, Chesterfield. The operator, Silva Recycling Limited, propose to undertake the sorting, shredding, screening and storage of non-hazardous waste wood as a recovery activity. The site will accept and treat up to 75,000 tonnes per year of non-hazardous wood waste as a recovery activity, with the temporary storage of up to 6,000 tonnes of non-hazardous wastes at any one time.

3.10.2 Application forms Part A, B2, B4 and F1 have been completed as part of this permit application to apply for a new bespoke waste operation environmental permit.

3.10.3 The site comprises approximately 1.7 hectares of land within an existing industrial estate and is situated on the eastern side of the B6039 Mansfield Road at Corbriggs, approximately 4km to the southeast of Chesterfield town centre.

3.10.4 The sorting, shredding, screening and temporary storage of unprocessed and processed waste wood and incidental contamination and production wastes will take place outside within the processing areas and storage bays on site. The site will be operated in a phased approach, with the initial site plan operated as the layout shown in drawing ref. '12800_004 Phase 1'. This will be for the pre-shredding of wood and limited storage of wood wastes prior to transfer off-site for recycling. Once the site is processing at a greater capacity and the temporary storage of larger volumes of wood waste is required to cater for seasonal demand fluctuations of inputs and outputs, the operator proposes to use the site layout plan as shown in the drawing ref. '12800_004 Phase 2'. Both plans show the locations of the weighbridge, processing area, quarantine area, storage bays, site entrances, parking areas and other site infrastructure at each operational stage.

3.10.5 The proposed activities to be carried out at the site may include the following:

- Delivery and reception of wood wastes with strict Waste Acceptance Procedures;
- Temporary storage outside of unprocessed wood wastes within designated storage bays constructed with modular concrete walls, with 1m freeboard above stockpile;
- Initial sorting of unprocessed wastes to remove MDF chipboard into a separate bay;
- Shredding of waste wood, and removal of ferrous metals;
- Screening of shredded wood to remove wood fines;
- Removal of non-ferrous metals using an Eddy Current Separator may be undertaken;
- Storage of good quality woodchip before transfer off-site for recycling;
- Storage of recovered by-products from processing, including metals (ferrous & non-ferrous), fines and other incidental contamination and production wastes (i.e. plastics, litter etc.) in storage bays or containers.

3.10.6 A more detailed process description of the proposed activities at the site is found in Section 2.1 of the Operating Techniques & BAT Review Report ref. 5448-CAU-XX-XX-RP-V-0303, included within this application.

3.10.7 The operator will implement an Integrated Management System (IMS) to cover the site activities, the structure of which will be based on ISO Annex SL framework. The management system will define the sites management structure, as well as setting out the roles and responsibilities of all staff, the environmental policy of the company, the health and safety procedures relevant to the site, and the process plant operating procedures for both normal and emergency conditions.

3.10.8 An environmental risk assessment has been produced which covers the risks such as odour, noise and vibration, fugitive emissions (dust, litter, mud and debris, surface run-off, visible plumes) and accidents (spillages, leaks, fire) as a result of the proposed operations at the site, as Amenity & Accidents Risk Assessment document ref. 5448-CAU-XX-XX-RP-V-0302.

3.10.9 A Fire Prevention Plan ref. 5448-CAU-XX-XX-RP-V-0304 has been produced for the proposed activities on site, which involves the handling and storage of combustible wastes, and covers the control measures in place to prevent a fire at the site and the procedures in place should a fire occur, including dealing with fire waters.

3.10.10 A Dust & Emissions Management Plan (DEMP) for the proposed operations has been produced as part of this permit application as document ref. 5448-CAU-XX-XX-RP-V-0305, which considers the risks of dust from the site and the control measures to be implemented at the site.

3.10.11 As part of the planning application, an Air Quality Assessment (AQA) was undertaken (ref. 'AIR15169915') to assess the impact of potential air pollutants including dust emissions from the proposed activities at the site, attached as Appendix 5. The overall impact was concluded to be 'not significant'. A Noise Impact Assessment (ref. 'UK.15174559/02') was also

undertaken as part of the planning application, attached as Appendix 6. The assessment concludes that the noise impact of the site operation would be below the Lowest Observed Adverse Effect Level at the nearest residential receptors. The operational traffic noise is also predicted to have negligible impact on the nearest residential receptors.

3.11 Q5d. Are you applying for an activity that includes the storage of combustible wastes?

3.11.1 This application is for a waste wood processing and transfer facility and as such will include for the temporary storage, sorting and shredding of waste wood, which is a combustible waste. Therefore, a Fire Prevention Plan document ref. 5448-CAU-XX-XX-RP-V-0304 is included within this application.

3.12 Q6. Environmental Risk Assessment

3.12.1 The following environmental risk assessments have been undertaken as follows:

- Amenity & Accidents Risk Assessment report ref. 5448-CAU-XX-XX-RP-V-0302 - which covers the risks such as odour, noise and vibration, fugitive emissions (dust, litter, mud and debris, surface run-off, visible plumes) and accidents (spillages, leaks, fire) as a result of the proposed operations at the site.
- Air Quality Assessment ref. AIR15169915 - undertaken as part of the planning application, to assess the impact of air pollutants such as dust and PM10s from the proposed activities.

3.13 Appendix 2 – Date of Birth Information for Relevant Offences and/or Technical Ability Questions Only

3.13.1 The date of birth information is to be kept confidential and not to be placed on the public register. As such the date of birth information for the Technically Competent Manager is provided within Appendix 1.

4.0 PART B4 – NEW BESPOKE WASTE OPERATION PERMIT

- 4.1.1 Please see the Operating Techniques & BAT Review report ref. 5448-CAU-XX-XX-RP-V-0303 for answers relating to the Part B4 application form, which also includes a process description and Best Available Techniques (BAT) Conclusions review.

5.0 PART F1 – CHARGES AND DECLARATIONS

5.1 Q1. Table 1 and Table 2: Working Out Charges

- 5.1.1 The permit application charge for the 'Physical treatment of non-hazardous waste', charge activity reference 1.16.12 is £7,930.
- 5.1.2 The Environment Agency charge for assessing the Dust Management Plan (DMP) is £1,241.00.
- 5.1.3 The Environment Agency charge for assessing the Fire Prevention Plan (FPP) is £1,241.00.
- 5.1.4 A total payment of **£10,412** was made by the operator via BACs transfer to the Environment Agency using payment reference **PSCAPPSILV5448** on 12/12/2022.
- 5.1.5 The named signatory for the Declaration in Form Part F1 is Christopher Ian Emery, a Director of Silva Recycling Limited.

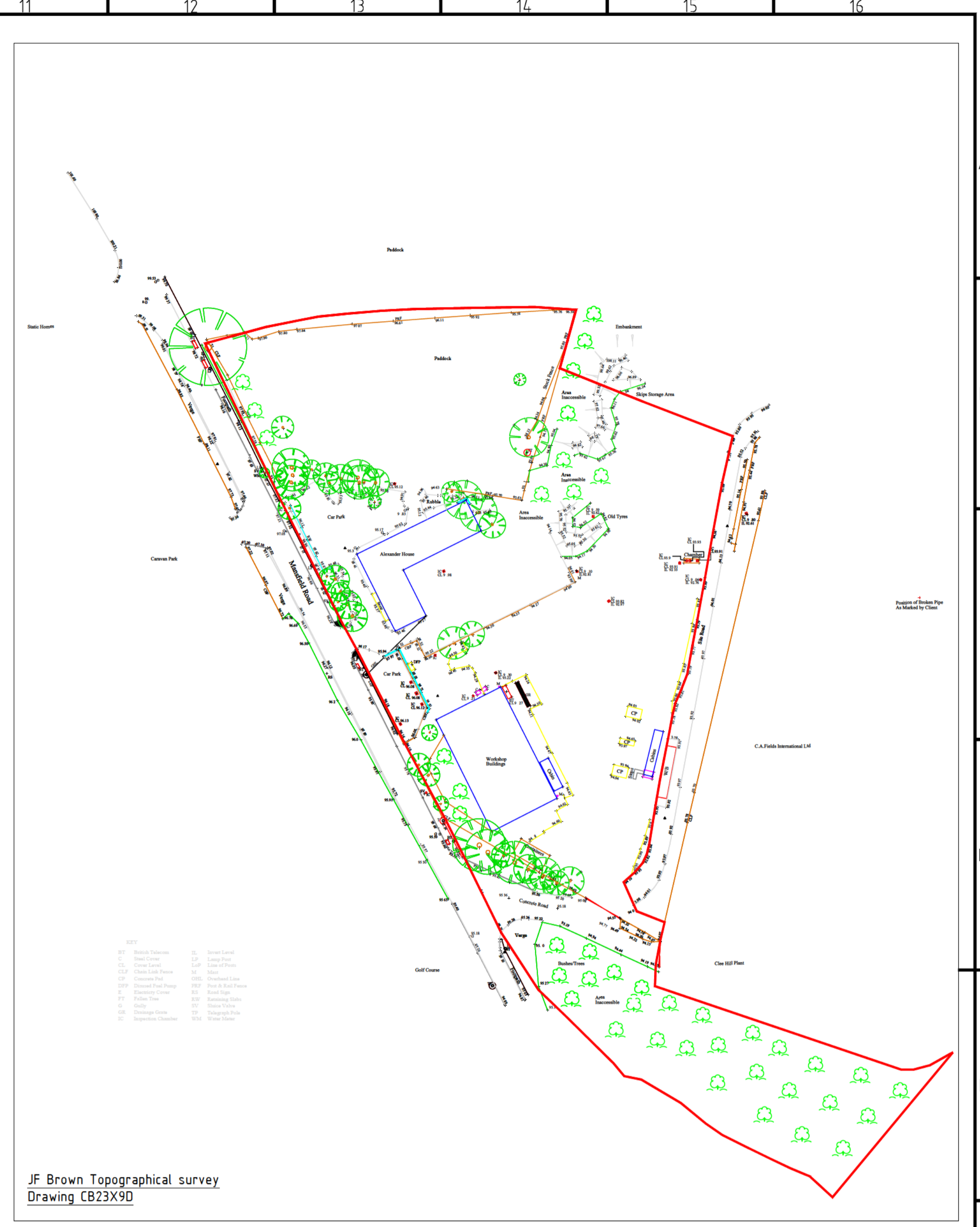
DRAWINGS

Site Layout Plan ref. 12800_004 Phase 1

Site Layout Plan ref. 12800_004 Phase 2

Proposed Site Permit Boundary ref.

5448-CAU-XX-XX-DR-V-1801



Legend

- Perimeter fence - Linear: 557m
Area : 16,450m²
- Purchased land boundary
- Quarantine area & overnight parking for HGV & mobile plant
- Processing plant
- Overnight parking for HGV & mobile plant

PHASE 1

KRONOSPAN STATUS			
Date 13.10.2022			
STATUS	DATE	BY	REVISION
DESIGNED	17.10.2022	A. Hilditch	1
BOUNDARY UPDATE	10.10.2022	A. Hilditch	2
ELECTRICAL BOX	03.10.2022	A. Hilditch	3
CERTIFIED	13.10.2022	A. Hilditch	4

Index	Description	Date	By
D	Stock pile layout	17.10.2022	A. Hilditch
C	Boundary update	10.10.2022	A. Hilditch
B	Boundary update	06.10.2022	A. Hilditch
A	Electrical box	03.10.2022	A. Hilditch

Status	Date	Name	Size	Scale
Project leader	31.05.2022	J. Arkley	A1	1:200
Drawn	31.05.2022	A. Hilditch	origin	1:100
Checked	30.09.2022	C. Emery		ISO

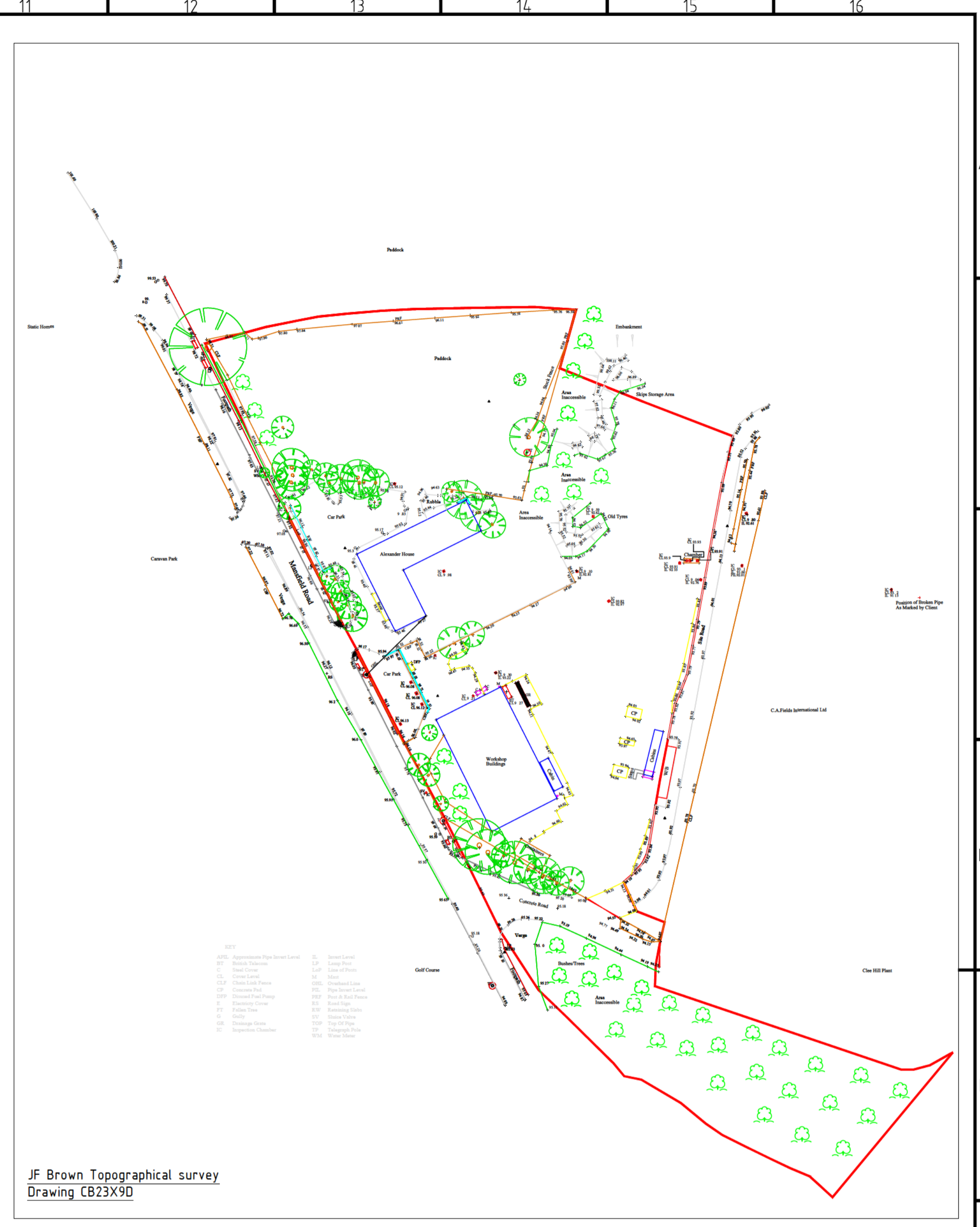
Xylo
Xylo Technologies AG
Rohrstrasse 1
CH-9052 Niederterfen
Schweiz

Kronospan Ltd
Hazydyn Farm
LLN S&T Clark, Wrexham
United Kingdom

Project name: **G.A. Stock piles Recycling Centre, Corbriggs**

Drawing number: **12800_004**

Index: **D** / Sheet/Number: **1/2**



PHASE 2

Legend

- Perimeter fence - Linear: 557m
Area : 16,450m²
- Purchased land boundary
- Quarantine area & overnight parking for HGV & mobile plant
- Processing plant
- Overnight parking for HGV & mobile plant

KRONOSPAN STATUS		Date: 17.10.2022	
STATUS	MAINTAINED	DATE	BY
E	X	17.10.2022	A. Hilditch
D	X	10.10.2022	A. Hilditch
C	X	07.10.2022	M. Welch
B	X	06.10.2022	A. Hilditch
A	X	03.10.2022	A. Hilditch


Index	Modification	Date	Name	Size	Scale
E	Stock pile layout	17.10.2022	A. Hilditch		
D	Purchase land boundary updated	10.10.2022	A. Hilditch		
C	Position of purchase land boundary updated	07.10.2022	M. Welch		
B	Paddock concrete wall amendment	06.10.2022	A. Hilditch		
A	Paddock concrete wall amendment	03.10.2022	A. Hilditch		

Status	Date	Name	Size	Scale
Project leader	31.05.2022	J. Arkley	A1	1:200 1:100
Drawn	31.05.2022	A. Hilditch	origin	
Checked	30.09.2022	C. Emery		

<p style="font-size: 6px; margin: 0;">Confidentiality: This drawing is the property of Xylo Technologies AG. It is not to be distributed, copied, or used for any other purpose without the written permission of Xylo Technologies AG. All rights reserved.</p>	<p style="font-size: 6px; margin: 0;">Xylo Technologies AG Rohrstrasse 1 CH-9052 Niederufenen Schweiz</p>	<p style="font-size: 6px; margin: 0;">Kronospan Ltd Hatzospyrn Farm LLN Smt Clark, Wrexham United Kingdom</p>	<p style="font-size: 6px; margin: 0;">Project name</p> <p style="font-size: 6px; margin: 0;">G.A. Stock piles Recycling Centre, Corbriggs</p>	<p style="font-size: 6px; margin: 0;">Index</p> <p style="font-size: 6px; margin: 0;">E</p>	<p style="font-size: 6px; margin: 0;">Sheet/Number</p> <p style="font-size: 6px; margin: 0;">1/2</p>	
	<p style="font-size: 6px; margin: 0;">Project number</p> <p style="font-size: 6px; margin: 0;">12800_004</p>		<p style="font-size: 6px; margin: 0;">Description</p> <p style="font-size: 6px; margin: 0;">G.A. Stock piles Recycling Centre, Corbriggs</p>		<p style="font-size: 6px; margin: 0;">Process</p> <p style="font-size: 6px; margin: 0;">Subprocess</p>	
	<p style="font-size: 6px; margin: 0;">Drawing number</p> <p style="font-size: 6px; margin: 0;">12800_004</p>		<p style="font-size: 6px; margin: 0;">Scale</p> <p style="font-size: 6px; margin: 0;">1:200 1:100</p>		<p style="font-size: 6px; margin: 0;">Index</p> <p style="font-size: 6px; margin: 0;">E</p>	
	<p style="font-size: 6px; margin: 0;">Sub Category</p> <p style="font-size: 6px; margin: 0;">Division</p>		<p style="font-size: 6px; margin: 0;">Project name</p> <p style="font-size: 6px; margin: 0;">G.A. Stock piles Recycling Centre, Corbriggs</p>		<p style="font-size: 6px; margin: 0;">Sheet/Number</p> <p style="font-size: 6px; margin: 0;">1/2</p>	



LEGEND

 PROPOSED PERMIT BOUNDARY

Milehill

B6039

Corbriggs

P03	CLIENT COMMENTS INCORPORATED	EJD	SH	SH	02.12.22
P02	BOUNDARY UPDATED	EJD	SH	SH	09.11.22
P01	ISSUED FOR INFORMATION	EJD	SH	SH	01.11.22
REV	MODIFICATIONS	BY	RE	AP	DATE

PURPOSE OF ISSUE	STATUS
FOR INFORMATION	S2

CLIENT:
SILVA RECYCLING LTD

PROJECT:
CORBRIGGS WOOD PROCESSING FACILITY

TITLE:
PROPOSED PERMIT BOUNDARY

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

DATE	SCALE @ A3	JOB REF:	REVISION
01.11.2022	1:2500	5448	P03

DRAWING NUMBER
5448-CAU-XX-XX-DR-V-1801



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Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG Company Registered No: 06716319

APPENDIX 1

Directors & TCM Dates of Birth

Appendix 1:

Silva Recycling Limited Director Details

Director Name	Date of Birth
Christopher Ian Emery	
Benjamin John Spruce	
Lisa Lloyd Williams	

Technically Competent Manager Details

TCM Name	Date of Birth
Jon Arkley	



Certificate Number 9113
ISO 9001, ISO 14001

Caulmert Limited

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG

Company Registered No. 06716319
Company Registered in Cardiff

APPENDIX 2

Pre-Application Advice & Habitats Screen

From: Arkley, Jon
Sent: 15 June 2022 17:56
To: 'Barrett, Bex' <rebecca.barrett@environment-agency.gov.uk>
Subject: RE: Corbriggs Chesterfield

Good afternoon Bex

Thank you for the note below, it was good to meet you too.

With regards to the charge code I expect it would be 2.16.7 (25,001 – 75,000 tpa).

With regards to the application charge, our primary purpose is to process wood for recycling, not recovery. I appreciate that a small proportion of the material we process may be go to recovery, but this would be minimal. I would therefore hope that the Agency would view this activity as falling within the scope of 1.16.12 Physical treatment of non-hazardous waste.

In the first instance, our priority has been to improve site security to deter trespassing and vandalism on site. After our meeting last week I installed some additional Heras fencing along the Mansfield Road boundary to prevent entry.

This week we are boarding up all of the ground floor windows on all of the buildings (workshop offices, portacabin & unboarded windows on the neighbouring office building). This should deter further attempts to access the buildings and avoid the potential for an arson attack on the DMR waste that WRL abandoned in the workshops.

I will advise in due course once we are in a position to commence removal of the wastes from site.

I look forward to speaking to you.

Kind regards, Jon Arkley

From: Barrett, Bex <rebecca.barrett@environment-agency.gov.uk>
Sent: 15 June 2022 17:27
To: Arkley, Jon <j.arkley@kronospan.co.uk>
Subject: Corbriggs Chesterfield

Hi Jon

Good to meet you on Friday, apologies I didn't send these straight across on Friday.

Contact details for Frances Smith – 07788564753 – frances.smith@derbyshire.gov.uk

She may not be the planner at the DDC dealing directly with your application but she has a lot of knowledge around the site, the current planning consent and the pre-existing enforcement notice on the 'mound'.

In terms of permitting I've had a look through our charging structure and at other similar permits to see which would potentially best apply. The caveat to this is ultimately permitting will advise the full charges for the application and this may vary depending on the additional management systems requested (Fire Prevention Plan/Dust Management Plan etc).

The subsistence charge for the site would depend on the planned annual throughput of waste on site. I've listed the options below with the relevant charge code.

- 2.16.6 – 75,000 tonnes or more per year - £5,794
- 2.16.7 – 25,000-75,000 tonnes per year - £4,169
- 2.16.9 – less than 25,000 tonnes per year - £1,920

The application charge for the site could be one of two, it will require a pre-app request to be submitted to the pre-app team to confirm this however I think one of the two options below may be most appropriate. Again, this needs to be confirmed by permitting and this is just to give you a rough idea.

1.16.2.3 - Section 5.4 (a)(iii) and (b)(ii) - non-hazardous waste installation – pre -treatment for incineration or co -incineration. Application charge - £13,288

1.16.12 Physical treatment of non - hazardous waste. Application charge £7,930.

Table 1.19 also contains the list of charges for the assessment of management systems.

All of the application charge information can be found through the link below to the EA Charging Structure guidance.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1073214/Environment_Agency_EPR_and_Abstraction_Licensing_Charging_Scheme_2022.pdf

Guidance on how to submit a bespoke permit application can be found through the link below.

<https://www.gov.uk/guidance/waste-environmental-permits#how-to-apply-for-a-bespoke-permit>

Details on how to make pre-application request can be found through the next link.

<https://www.gov.uk/guidance/get-advice-before-you-apply-for-an-environmental-permit>

As mentioned on Friday I will be meeting with my team leader next week when he returns from leave to discuss your proposals for the site and the requests around operating before the permit is in place. I'll give you a call when I have a further update for you.

Can you keep me updated on any changes to the site and any progress made with removing the waste from the bottom building? If any works are due to commence it would be useful to have an awareness in case the residents do get in touch. I have contacted our Customers and Engagement team and will be issuing a briefing note to the local MP informing him of the changes on site etc.

I think that's everything we discussed – if not just give me a shout.

Thanks.

Bex Barrett
Environment Officer | Sheffield & North East Derbyshire Waste Team

Tel: 020302 53717

Email: rebecca.barrett@environment-agency.gov.uk

Follow us on Twitter: @ENVAgencyYNE

Environment Agency, Bow Bridge Close, Bradmarsh Business Park, Templeborough, Rotherham, S60 1BY

FLOOD

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Nature and Heritage Conservation

Screening Report: Bespoke Waste

Reference	EPR/LB3406MD/A001
NGR	SK 41002 68251
Buffer (m)	58
Date report produced	17/06/2022
Number of maps enclosed	1

The nature and heritage conservation sites and/or protected species and habitats identified in the table below must be considered in your application.

Nature and heritage conservation sites	Screening distance (m)	Further Information
Local Wildlife Sites (LWS) Grassmoor Country Park Corbriggs Marsh	200	Appropriate Wildlife Trust

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

Please note we have screened this application for protected and priority sites, habitats and species for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

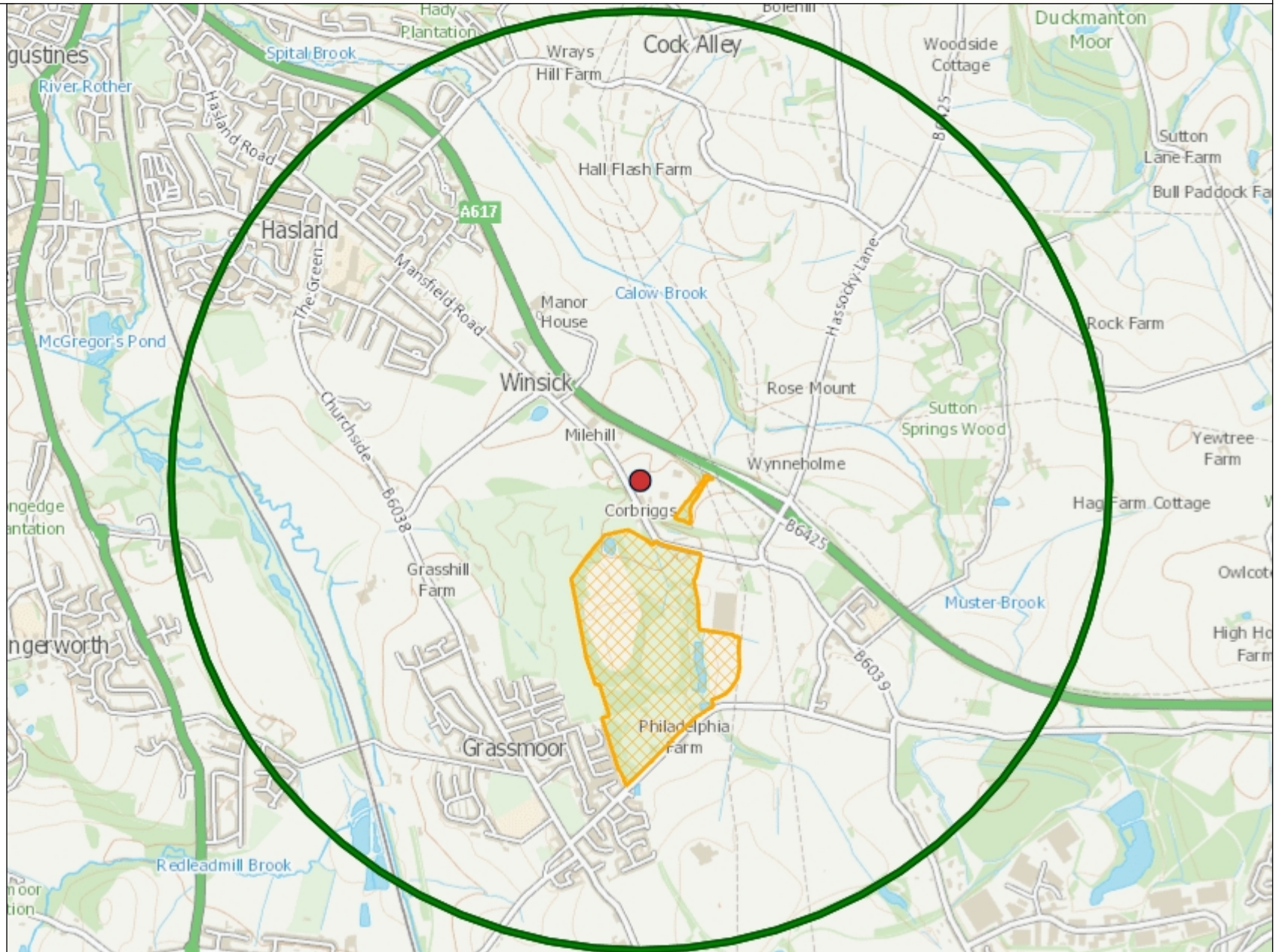
Please note the nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information.

Local Wildlife Sites



Legend

 Local Wildlife Sites



1: 25,000



APPENDIX 3

Technical Competency Certificates

WAMITAB

Waste Management Industry Training and Advisory Board

Certificate No: 12873

CERTIFICATE OF TECHNICAL COMPETENCE

This Certificate confirms that

Jonathan Matthew Arkley

*Has demonstrated the standard of technical competence required for the
management of a facility of the type set out below*

Facility Type

Level 4 in Waste Management Operations -

Managing Treatment Hazardous Waste (4TMH)

Authorising Signatures:

Chief Executive Officer

Director:

Date of issue:



02 January 2013



00019129

WAMITAB

Waste Management Industry Training and Advisory Board

Certificate No: 12874

CERTIFICATE OF TECHNICAL COMPETENCE

This Certificate confirms that

Jonathan Matthew Arkley

*Has demonstrated the standard of technical competence required for the
management of a facility of the type set out below*

Facility Type

Level 4 in Waste Management Operations -


Managing Transfer Hazardous Waste (4TSH)

Authorising Signatures:

Chief Executive Officer

Director:

Date of issue:



02 January 2013



00019128



Continuing Competence Certificate

This certificate confirms that

Jonathan Arkley

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 18/01/2021

TSH Transfer - Hazardous Waste
TMH Treatment - Hazardous Waste

Expiry Date:
18/01/2023

Verification date: 07/01/2021

Authorised:

Learner ID: 12736

Certificate No.: 5173496

Date of Issue: 18/01/2021

A handwritten signature in black ink, appearing to read "A. H. ...".

Director of Qualifications and Standards

A handwritten signature in black ink, appearing to read "C. ...".

CIWM Chief Executive Officer



The Chartered Institution
of Wastes Management



00164671

APPENDIX 4

Management System Summary

Summary of Environmental Management Systems in IMS

Silva Recycling Limited have an Integrated Management System (IMS) formed around the ISO Annex SL framework structure, which incorporates all of the required elements of a stand-alone Environmental Management System (EMS).

This approach is intended to avoid duplication of effort and the potential for inconsistencies / conflicting instructions, which could transpire from multiple management systems.

This document summarises the elements of the IMS which are applicable to an EMS:

i. Site Operations

The Corbriggs site operations will incorporate a new Wood Processing Facility involving the reception and processing of non-hazardous wood wastes, including sorting, shredding, screening, separation and temporary storage. It will operate in accordance with the permit.

All site staff will be suitably trained for their roles regarding permit compliance, and will report any incidents of non-conformance to the Site Manager.

The operational procedures include plans for waste storage.

Relevant procedures:

- 6.1.4.2 Amenity & Accident Risk Assessment
- 6.1.4.3 Environmental Aspects & Impact Register
- 6.1.4.6 Dust & Emissions Management Plan
- 6.1.4.8 Energy Management Plan
- 6.1.4.9 Fire Prevention Plan
- 6.1.4.14 Water Management Plan
- 8.1.5.1 Waste Acceptance Procedures
- 8.1.5.2 Waste Handling Procedures
- 9.1.1.1.1 Feedback of Observations
- 9.1.1.1.3 Site Inspections
- 9.1.1.1.4 Management & Supervision
- 9.1.1.3 Environmental Monitoring

ii. Fire Prevention Plans

The IMS includes a Fire Prevention Plan (FPP) which has been approved by the Environment Agency as part of the Permit application. This is designed to meet the 3 objectives:

- Minimise the likelihood of a fire happening.
- Aim for a fire to be extinguished within 4 hours.

- Minimise the spread of fire within the site and to neighbouring sites.

To achieve this waste materials will be stored in accordance with the FPP. The site layout will ensure separation distances in the FPP are maintained. The FPP also considers the provision of water for fire-fighting and the containment of firewater run-off.

Relevant procedures:

- 6.1.3.3 Fire Risk Assessment
- 6.1.4.7 Emergency Action Plan
- 6.1.4.9 Fire Prevention Plan
- 6.1.4.14 Water Management Plan

iii. Site and Equipment Maintenance Plans

A Planned Preventative Maintenance programme (PPM) will be employed on site in place to minimise the risk to safety, health and the environment by ensuring that all appropriate items and elements within the site are serviced and inspected on a regular basis or to the manufacturers' maintenance schedules.

An inventory of the plant on site will be kept, together with details of routine maintenance. Each item of plant will have a dedicated maintenance log. These measures will reduce the likelihood of plant failure.

Relevant procedures:

- 8.1.6.1 Site Maintenance Procedures
- 8.1.6.2 Mobile Plant Maintenance Procedures
- 8.1.6.3 Processing Plant Maintenance Procedures
- 8.1.6.4 Equipment Maintenance Procedures
- 9.1.1.1.1 Feedback of Observations
- 9.1.1.1.2 Pre-start Checklists
- 9.1.1.1.3 Site Inspections
- 9.1.1.1.4 Management & Supervision

iv. Contingency Plans

The IMS includes plans to cover unforeseen circumstances.

Relevant procedures:

- 6.1.4.2 Amenity & Accidents Risk Assessment
- 6.1.4.6 Dust & Emissions Management Plan
- 6.1.4.7 Emergency Action Plan
- 6.1.4.14 Water Management Plan
- 6.1.6.1 Business Continuity Plan
- 6.2.3.2 Contingency Planning

v. Accident Prevention and Management Plan

The IMS includes plans to manage incidents or events which:

- Identify the likelihood and consequence of accidents;
- Identify actions to prevent accidents and mitigate any consequences;
- Document procedures for handling, investigating, communicating and reporting actual or potential non-compliance with operating procedures or any emission limits;
- Document procedures for handling, investigating, communicating and reporting environmental complaints and implementation of appropriate actions; and,
- Document procedures for investigating incidents, (and near misses) including identifying suitable corrective action and following up.

To ensure ongoing conformance to the management requirements and a system of continuous improvement, the operator will have periodic audits undertaken by independent auditors.

Any incidents or non-conformances will be recorded in the daily site records. A daily site inspection is carried out & reviewed by a Technically Competent Manager. Staff are also encouraged to report any issues to a management.

Relevant procedures:

- 6.1.3.3 Fire Risk Assessment
- 6.1.4.2 Amenity & Accident Risk Assessment
- 6.1.4.3 Environmental Aspects & Impacts Register
- 6.1.4.6 Dust & Emissions Management Plan
- 6.1.4.7 Emergency Action Plan
- 6.1.4.8 Fire Prevention Plan
- 6.1.4.14 Water Management Plan
- 6.1.6.1 Business Continuity Plan
- 6.2.3.2 Contingency Planning
- 9.1.1.1.1 Feedback of Observations
- 9.1.1.1.2 Pre-start Checklists
- 9.1.1.1.3 Site Inspections
- 9.1.1.1.4 Management & Supervision
- 9.1.1.3 Environmental Monitoring
- 9.1.1.7.2 Environmental Notifications & Reporting
- 10.2 Non-conformity and corrective action
- 10.3.1 Continual Improvement – Reactive Measures
- 10.3.3.2 Root Cause Analysis

vi. Online Security

Silva Recycling use IT systems, including Microsoft Office and proprietary weighbridge systems, which are covered for cyber security.

None of the IT systems control processes which could give rise to environmental harm.

vii. Contact Information for the Public

The site will display a notice board close to the site entrance in line with Environment Agency guidance.

In addition to this, Silva Recycling have procedures for engaging with external stakeholders.

Relevant procedures:

- 7.4.5 Communication with External Stakeholders

viii. A Changing Climate

The Corbriggs site has been designed to incorporate a drainage system which meets the recommendations of the Flood Risk Assessment & Drainage Strategy, able to accommodate a 1 in 100 year plus 40% climate change event.

Relevant procedures:

- 6.1.4.2 Amenity & Accident Risk Assessment
- 6.1.4.3 Environmental Aspects & Impacts Register
- 6.1.4.14 Water Management Plan

ix. Complaints Procedure

The company has a Complaints Procedure, which forms part of the IMS for the site.

Relevant procedures:

- 9.1.1.5.3 Complaints Log
- 9.1.1.6 Operational Complaints

x. Managing Staff Competence and Training Records

The IMS includes provision to ensure that employees who work at the site are competent and / or are undergoing relevant training and supervision.

The training requirements for all relevant staff cover:

- Awareness of the regulatory implications of the Permit for the activity and their work activities;
- Awareness of all potential environmental effects from operations under normal and abnormal circumstances;
- Awareness of the need to report deviation from the Permit; and
- Prevention of accidental emissions and actions to be taken when accidental emissions occur.

The skills and competencies necessary for key posts are documented and records of training needs and training received for these posts maintained.

The potential environmental risks posed by the work of contractors should be assessed and instructions provided to contractors about protecting the environment while working on site.

Where industry standards or codes of practice for training exist, they should be complied with.

Training is provided so that all workers have a satisfactory understanding of their duties in relation to environmental and health & safety issues on site.

Relevant procedures:

- 5.3 Organisational Roles, Responsibilities and Authorities
- 7.2.1 Recruitment & Selection
- 7.2.2 Training & Assessment
- 7.2.2.1 Induction
- 7.2.2.2 Learning & Development
- 7.2.3 Knowledge & Experience

xi. Keeping Records

Copies of planning permissions, environmental permits and other relevant permissions are kept either as paper records or electronically.

The technically competent managers keep up-to-date with other legal requirements and changes to relevant environmental legislation through trade magazines and the Environment Agency website, along with information from professional bodies and Trade Associations, and attendance at meetings.

Relevant procedures:

- 9.1.1.1.2 Pre-start Checklists
- 9.1.1.1.3 Site Inspections
- 9.1.1.1.4 Management & Supervision
- 9.1.1.3 Environmental Monitoring

- 9.1.1.7.2 Environmental Notifications & Reporting
- 9.1.1.5 Operational Records
- 9.1.1.5.1 Site Diary
- 9.1.1.5.2 Weighbridge Records (including Waste Duty of Care)
- 9.1.1.5.3 Complaints Log
- 9.2.2 Cross-site Peer Reviews
- 9.2.3 Senior Management Reviews
- 9.2.4 Internal Compliance Audits
- 10.2 Non-conformity and corrective action

xii. Site Condition Report

A Site Condition Report has been prepared for the site at Corbriggs, this forms part of the IMS.

Relevant procedures:

- 6.1.4.5 Site Condition Report
- 6.1.4.6 Dust & Emissions Management Plan
- 9.1.1.3 Environmental Monitoring

xiii. Management System Reviews

Management periodically review the environmental performance of the company through their review of environmental audit reports and the daily site records.

The environmental policy statement is also reviewed periodically to ensure it reflects the company's operations and its environmental objectives.

Relevant procedures:

- 5.2.2 Environmental Policy Statement
- 6.2 Management System Objectives and Planning to Achieve Them
- 9.2.3 Senior Management Reviews
- 9.3 Management Review
- 10.2 Non-conformity and corrective action

APPENDIX 5

Air Quality Assessment ref. AIR15169915



Caulmert Ltd

Proposed Recycling Centre Development – Mansfield Road,
Corbriggs

Air Quality Assessment

October 2022



Move Forward with Confidence



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Document Control Sheet

Identification	
Client	Caulmert Ltd
Document Title	Mansfield Road Corbriggs Air Quality Assessment
Bureau Veritas Ref No.	AIR 15169915

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Configuration				
Version	Date	Author	Reason for Issue/Summary of Changes	Status
01	01/08/22	J Cai	Draft for comment	Draft
02	20/09/22	J Cai	Updated	First Issue
03	18/10/22	J Cai	Updated Following Comments	Final

	Name	Job Title	Signature
Prepared By	J Cai	Graduate Air Quality Consultant	
Approved By	D Clampin	Senior Air Quality Consultant	

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Executive Summary

Purpose of Report

Caulmert Ltd has commissioned Bureau Veritas UK Ltd to undertake an air quality assessment in order to support a planning application for a recycling centre on Mansfield Road, Corbriggs for the demolition of derelict offices and workshop buildings and for the construction of facilities for reception, shredding, stockpiling and transfer of waste wood. The proposed development consists of 2 container office buildings (a Site Office and a Weighbridge Office), 1 processing plant, 2 existing car parks, 1 new car park, 1 area as quarantine area/overnight parking for HGV & mobile plant, 1 area for overnight parking for HGV & mobile plant, 10 stock piles for storage. Based on Phase 1 development, Phase 2 development consists of extended container offices building, extended area for quarantine area/overnight parking for HGV & mobile plant and 1500m³ max 'Paddock' Chip bunkers area.

An assessment of the potential effects of dust/particulate matter (PM), including particles of sizes less than or equal to 10 micrometres (PM₁₀) and less than or equal to 2.5 micrometres (PM_{2.5}), during the construction period was subject to a qualitative assessment using the Institute of Air Quality Management (IAQM) guidance on construction dust. The assessment of nitrogen dioxide (NO₂), PM₁₀ and PM_{2.5} effects from the operational phase of the development was subject to a screening assessment using the EPUK/IAQM guidance on planning for air quality.

The purpose of this document is to detail the methodology and results of the air quality assessment, the scope of which has been confirmed as appropriate by the Environmental Protection Officer at North East Derbyshire District Council ¹.

Summary of Conclusions

The assessment of dust and PM₁₀ effects from the construction phase of the development was subject to a qualitative assessment. It is desirable that effective mitigation measures for fugitive dusts be implemented under site management controls by the development company through a Dust Management Plan (DMP).

With such mitigation in place, the assessment carried out has shown that any off-site impacts from dust emissions during the construction phase would be **not significant**.

The proposed development is located outside AQMA. NO₂ monitoring by diffusion tube has been completed in one site within 2 km of the Site in recent years, recording concentrations well below the relevant AQS objective limits. The background concentrations provided by Defra background mapping tools also predict NO₂, PM₁₀ and PM_{2.5} concentrations at the Site location to be well below the relevant AQS objective limits.

In line with EPUK/IAQM Guidance and following discussions with the Council's Environmental Health Officer, as the site is predicted to generate less than 100 AADT (including HDVs) outside AQMA, it was concluded that a detailed assessment of impacts from vehicle emissions during the operational phase was not required. Therefore, the assessment indicates that the impact on local air quality conditions arising from increased traffic flows as a result of the development can be described as **not significant**.

¹ Via email correspondence on the 1st August 2022

1 Introduction

Caulmert Ltd has commissioned Bureau Veritas UK Ltd to undertake an air quality assessment in order to support a planning application for a recycling centre on Mansfield Road, Corbriggs for the demolition of derelict offices and workshop buildings and for the construction of facilities for reception, shredding, stockpiling and transfer of waste wood. The proposed development consists of 2 container office buildings, 1 processing plant, 2 existing car parks, 1 new car park, 1 area as quarantine area/overnight parking for HGV & mobile plant, 1 area for overnight parking for HGV & mobile plant, 10 stock piles for storage. Based on Phase 1 development, Phase 2 development consists of extended container offices building, extended area for quarantine area/overnight parking for HGV & mobile plant and 1500m³ max 'Paddock' Chip bunkers area.

The Site is bounded to the south and west by the B6039 Mansfield Road and to the north and east by the A617. Land use within the immediate vicinity primarily consists of greenfield and some residential properties to the north and west, some residential properties to the south, brownfield and industrial areas to the south and east.

The purpose of the air quality assessment is to characterise existing air quality conditions in the area and to provide an indication of what effect (if any) the development of the Site may have on these conditions.

The Site location is illustrated in Figure 1.1 and a site layout plan is provided in Appendix A – Development Site Layout

1.1 Scope of Assessment

The air quality assessment will assess the impacts upon air pollutant concentrations in the area surrounding the Site, during the construction phase and operational phase of the proposed development.

The main aims of the assessment are, therefore:

- To assess, qualitatively, the short-term construction dust impacts during the construction phase of the proposed development and review the mitigation measures available to reduce these impacts to an acceptable level;
- To assess, quantitatively, the air quality impacts of the proposed development during the operational phase, including the potential traffic generated from the Site and the existing air quality conditions; and
- To review options for mitigation for the operational phase, should poor air quality be predicted, and determine whether a dispersion modelling assessment is required to assess the air quality impacts.

The approach adopted in this assessment to assess the impact of dust and particulates during the construction phase of the proposed development was based on the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction². The approach adopted to assess the impact of road traffic on air quality was based on the EPUK/IAQM Guidance for Land-Use Planning and Development³.

² IAQM (2014). Guidance on the assessment of dust from demolition and construction (v1.1) <https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>

³ Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) (2017). Land-Use Planning & Development Control: Planning for Air Quality (v1.1). <http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>

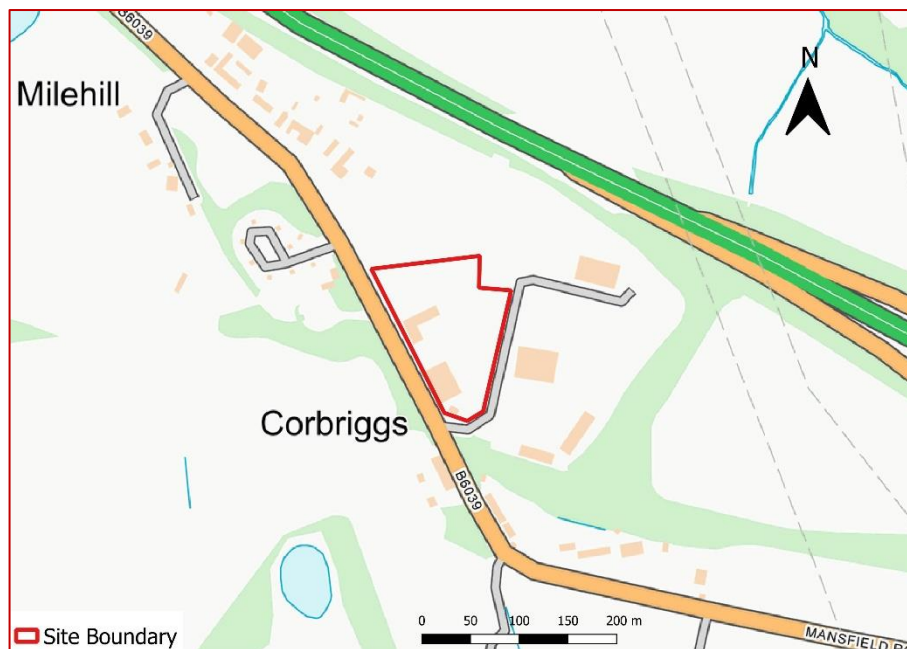
The assessment covers both the impact on air quality during the construction phase of the development through the emissions of dust and particulate matter (PM), particularly PM₁₀, as well as the operational phase whereby the development may lead to changes in the existing traffic flow and consequently changes in nitrogen oxide (NO_x) and PM emissions to the local area. Further information in relation to these pollutants is provided in Appendix B – Background to Air Quality.

In addition, the guiding principles for air quality assessments as set out in the latest guidance and tools provided by Defra (LAQM.TG(22)⁴) have been used where relevant.

North East Derbyshire District Council (“the Council”) was contacted prior to this assessment to discuss the appropriate methodology. The Council confirmed via email that they are satisfied with a screening assessment to be carried out following the EPUK/IAQM guidance, which will then inform the decision as to whether a further detailed assessment is required or whether any change in emissions can be screened out as not significant. It was agreed that a review of existing monitoring concentrations would be undertaken to determine whether it was likely that there would be exceedances of the air quality objective at the new development.

⁴ Defra. LAQM.TG(22), available at: <https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf>

Figure 1.1 – Site Location and Approximate Boundaries



2 Air Quality – Legislative Context

2.1 Air Quality Strategy

The importance of existing and future pollutant concentrations can be assessed in relation to the national air quality standards and objectives established by Government. The Air Quality Strategy⁵ (AQS) provides the over-arching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the UK Government and Devolved Administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from Limit Values prescribed in the EU Directives transposed into national legislation by Member States. Although the UK is no longer part of the EU, since this legislation has been transposed directly into UK law, the EU legislation remains relevant.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The CAFE Directive⁶ has been adopted and replaces all previous air quality Directives, except the 4th Daughter Directive⁷. The Directive introduces new obligatory standards for PM_{2.5} for National Government but places no statutory duty on Local Governments to work towards achievement of these standards.

The Air Quality Standards Regulations 2010⁸ came into force in order to align and bring together in one statutory instrument the Government's obligations to fulfil the requirements of the new CAFE Directive.

The objectives for ten pollutants – benzene (C₆H₆), 1,3-butadiene (C₄H₆), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), ozone (O₃) and Polycyclic Aromatic Hydrocarbons (PAHs), have been prescribed within the AQS⁵.

The EU Limit Values are considered to apply everywhere with the exception of the carriageway and central reservation of roads and any location where the public do not have access (e.g. industrial sites).

The AQS objectives apply at locations outside buildings or other natural or man-made structures above or below ground, where members of the public are regularly present and might reasonably be expected to be exposed to pollutant concentrations over the relevant averaging period. Typically, these include residential properties and schools/care homes for long-term (i.e. annual mean) pollutant objectives and high streets for short-term (i.e. 1-hour) pollutant objectives. Table 2.1, taken from LAQM.TG(22)⁴, provides an indication of those locations that may or may not be relevant for each averaging period and examples of where the AQS objectives are considered to apply.

This assessment focuses on NO₂, PM₁₀ and PM_{2.5} as these are the pollutants of principal concern arising from road traffic, and it is these sources that potential impacts from the development may arise. Moreover, as a result of traffic pollution the UK has failed to meet the EU Limit Values for NO₂ by the 2010 target date. The Government has subsequently had to submit time extension applications for compliance with the EU Limit Values. Continued failure to achieve these limits may lead to EU fines, and has already led to an infraction by Government. The AQS objectives for these pollutants are presented in Table 2.2.

⁵ The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland.

⁶ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

⁷ Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air

⁸ Air Quality Standards Regulations 2010 available: <https://www.legislation.gov.uk/uksi/2010/1001/contents/made>

In July 2017, the UK Government published its plan for tackling roadside NO₂ concentrations, which are, in many places in the UK, in exceedance of the EU Limit Values. This sets out Government policies for bringing NO₂ within statutory limits in the shortest possible time. Furthermore, a wider Clean Air Strategy has been published on 14th January 2019 to outline how the UK will meet international commitments to significantly reduce emissions of five damaging air pollutants by 2020 and 2030 under the adopted revised National Emissions Ceiling Directive (NECD)⁹.

Table 2.1 – Examples of where the AQS Objectives should apply

Averaging Period	AQS Objectives should apply at:	AQS Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building facades of residential properties, schools, hospitals, care homes etc.	Building facades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean and 8-hour mean	All locations where the annual mean objectives would apply, together with hotels. Gardens of residential properties ¹ .	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives would apply. Kerbside sites (e.g. pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where the public might reasonably be expected to spend one hour or more. Any outdoor locations at which the public may be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15-minute mean	All locations where members of the public might reasonably be expected to spend a period of 15 minutes or longer.	

Note: ¹ For gardens and playgrounds, such locations should represent parts of the garden where relevant public exposure is likely, for example, where there is seating or play areas. It is unlikely that relevant public exposure would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied.

⁹ Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC

Table 2.2 – Relevant AQS Objectives for the Assessed Pollutants in Scotland

Pollutant	AQS Objective	Concentration Measured as:	Date for Achievement
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times per year	1-hour mean	31 st December 2005
	40 µg/m ³	Annual mean	31 st December 2005
Particles (PM ₁₀)	50 µg/m ³ not to be exceeded more than 7 times per year	24-hour mean	31 st December 2010
	18 µg/m ³	Annual mean	31 st December 2010
Particles (PM _{2.5})	12 µg/m ³	Annual mean	2020

2.2 Local Air Quality Management

Part IV of the Environment Act 1995 (as amended 2021)¹⁰ places a statutory duty on local authorities to periodically Review and Assess the current and future air quality within their area, and determine whether they are likely to meet the AQS objectives set down by Government for a number of pollutants – a process known as Local Air Quality Management (LAQM). The AQS objectives that apply to LAQM are defined for seven pollutants: benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide and particulate matter.

Where the results of the Review and Assessment process highlight that problems in the attainment of health-based objectives for air quality will arise, the authority is required to declare an Air Quality Management Area (AQMA) – a geographic area defined by high concentrations of pollution and exceedances of health-based standards.

Where an authority has declared an AQMA, and development is proposed to take place either within or near the declared area, further deterioration to air quality resulting from a proposed development can be a potential barrier to gaining consent for the development proposal. Similarly, where a development would lead to an increase of the population within an AQMA, the protection of residents against the adverse long-term impacts of exposure to existing poor air quality can provide the barrier to consent. As such, following an increased number of declarations across the UK, it has become standard practice for planning authorities to require an air quality assessment to be carried out for a proposed development (even where the size and nature of the development indicates that a formal Environmental Impact Assessment (EIA) is not required).

One of the objectives of the LAQM regime is for local authorities to enhance integration of air quality into the planning process. Current LAQM Policy Guidance¹¹ clearly recognises land-use planning as having a significant role in terms of reducing population exposure to elevated pollutant concentrations. Generally, the decisions made on land-use allocation can play a major role in improving the health of the population, particularly at sensitive locations – such as schools, hospitals and dense residential areas.

2.3 National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the Government’s planning policies for England and how these should be applied. It provides a framework within which locally-prepared

¹⁰ Part IV of the Environment Act 2021. Published by the UK Government, 16th November 2021. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/part/4/enacted>

¹¹ Local air quality management: policy guidance – 20th April 2018. Published by Scottish Government.

plans for housing and other development can be produced. The latest NPPF was update on 20 July 2021¹². Regarding air quality, the NPPF states that:

“186. Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.”

2.4 Local Planning Policy

The North East Derbyshire Local Plan 2014 - 2034¹³ was formally adopted on 29th November 2021 and sets out the overall vision, objectives and spatial strategy and policies for North East Derbyshire over the period to 2034. As part of the core strategy of the Local Plan, Section Air Quality states that:

“8.63 Clean air is an essential element of a good quality life. The existing, and likely future, air quality in an area should be considered through Local Plans. It may also be material in considering individual planning applications where air pollution considerations arise.

[...]

8.65 In addition to reducing impacts on human health, development should not result in the deterioration of protected habitats and species. These include Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) located outside of the district which are jointly included in an EU wide network of sites called Natura 2000 sites. Development proposals that are likely to increase air pollution in the vicinity of a Natura 2000 site will need to undergo an assessment under the Habitats Regulations 2010 in order to determine its likely impacts on the sites and habitats in question.”

2.5 Air Quality Guidance for Construction Sites

There are a number of regulatory and legislative constraints in place to control pollution from construction and demolition activities. The Building Act 1984 and subsequent Building Regulations 2000 are in place to ensure the safety of people in and around the building during work. Part III of the Environmental Protection Act (EPA) 1990 identifies the emission of dust from construction sites as having the potential to be a statutory nuisance and requires its control under Section 80.

In December 2011, the IAQM published a guidance document to assess the impact of construction on air quality. The guidance was reviewed in January 2012 and updated in February 2014 to incorporate new evidence². The approach adopted in this assessment is based on adopting the methodology published in the 2014 version of the IAQM guidance.

The significance of the impact of the construction phase on air quality was determined through application of the criteria outlined in IAQM construction guidance².

¹² National Planning Policy Framework. Published by Ministry of Housing, Communities & Local Government, updated on 20 July 2021. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

¹³ North East Derbyshire Local Plan 2014 - 2034. Adopted 29th November 2021. Available at: <https://www.ne-derbyshire.gov.uk/planning-and-local-plan/planning-policy-and-local-plan/development-plan#ANE>

2.6 Land-Use Planning and Development Control: Planning for Air Quality

Although no formal procedure exists for classifying the magnitude and significance of air quality effects from a new development, guidance issued by the IAQM suggests ways to address the issue. The EPUK/IAQM guidance³ provides a decision-making process which assists with the understanding of air quality impacts and implications as a result of development proposals.

The guidance includes a method for screening the requirement for an air quality assessment, the undertaking of an air quality assessment, the determination of the air quality impact associated with a development proposal and whether this impact is significant.

The approach for assessing the significance of air quality impacts associated with a given development is employed in this assessment, and is outlined in Section 4. The guidance note is widely accepted as the most appropriate reference method for this purpose.

3 Baseline Air Quality Review

3.1 Local Air Quality Management

The Council has, under its obligations in Part IV of the Environment Act 1995 (as amended 2021)¹⁰, maintained a thorough annual review and assessment of air quality through their statutory reporting, which started with the 2009 Update and Screening Assessment (USA).

The most recent LAQM report published by North East Derbyshire District Council is the 2021 Air Quality Annual Status Report (ASR)¹⁴. No automatic monitoring is carried out by the Council. NO₂ was monitored at 18 locations using passive diffusion tubes during 2020.

The Council currently have one citywide declared AQMAs within their jurisdiction.

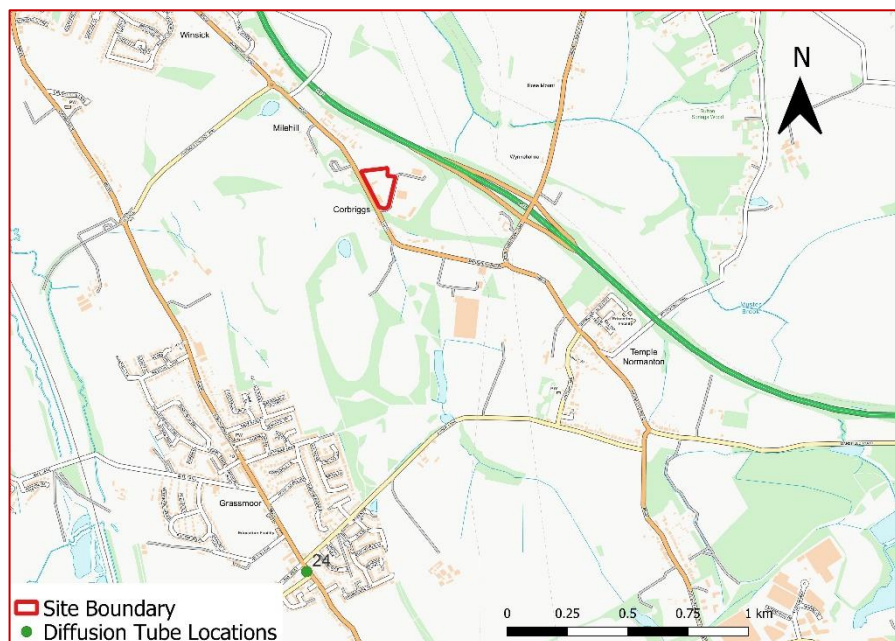
3.2 Review of Air Quality Monitoring

Figure 3.1 presents the locations of available monitoring data close to the Site. Only one diffusion tube monitoring location (Tube 24) is identified within 2 km from the Site. This diffusion tube was deployed at 304 North Wingfield Road, Grassmoor which is around 1.5 km to the site.

Table 3.1 presents the concentrations at the closest diffusion tube monitoring location to the Site, Tube 24, which is approximately 1.5 km south-west of the Site, in Grassmoor. This monitoring location has consistently recorded NO₂ annual mean concentrations well below the 40 µg.m⁻³ AQS objective during 2019 and 2020.

The diffusion tube monitoring station is located approximately 1.5 km to the south-west of the Site and therefore the concentrations, although an indication of the overall air quality in the area, is not necessarily representative of the air quality at the Site. It is important to note that the conditions and environments are different. The proposed Site is located outside of Grassmoor, in a more open environment, where congestion is less likely and dispersion of pollutants is likely to be improved.

Figure 3.1 North East Derbyshire Monitoring Locations Closest to the Site



¹⁴ North East Derbyshire 2021 ASR. Available at: <https://www.ne-derbyshire.gov.uk/environmental-health/pollution-and-air-quality/air-quality>

Table 3.1 North East Derbyshire Diffusion Tube Monitoring Closest to the Site

Site Name	Site Type	Easting (m)	Northing (m)	Distance to site (m)	Annual Mean NO ₂ Concentration (µg/m ³)				
					2016	2017	2018	2019	2020
24	Roadside	440708	366629	1500	-	-	-	18.4	12.9

3.3 Background Concentrations at the Development Site

Defra maintain a nationwide model of existing and future background air quality concentrations at a 1 km grid square resolution¹⁵. The data sets include annual average concentration estimates for NO_x, NO₂, PM₁₀ and PM_{2.5}, using a base year of 2018. The model used is semi-empirical in nature; it uses the national atmospheric emissions inventory (NAEI) emissions to model-predict the concentrations of pollutants at the centroid of each 1 km grid square, but then calibrates these concentrations in relation to actual monitoring data.

The 2020-2022 sources of background data are outlined in Table 3.2. Background values remain considerably lower than the annual mean AQS objectives for all pollutants (9.3 µg.m⁻³, 12.1 µg.m⁻³, and 7.2 µg.m⁻³ in 2022, respectively). There is a marginal decrease from year to year, which is likely a result of a decrease in the emissions from the national vehicle fleet.

Table 3.2 – 2020 to 2022 Background Pollutant Concentrations

Source	Background Concentration (µg.m ⁻³) (Background concentrations taken from grid square; 441500, 368500)								
	NO ₂			PM ₁₀			PM _{2.5}		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Defra Background Maps	10.1	9.7	9.3	12.3	12.2	12.1	7.4	7.3	7.2
AQS Objective (annual mean)	40			40			20		

The background-mapped values provide an indication of air quality of a 1 km grid square (which is inclusive of the location of the development). However, this is averaged over the entire area of the grid square, so whilst high concentrations along main roads will contribute to the overall background concentration, the monitoring data is more useful at determining the levels of exceedance along key transport routes. As there is only one monitoring location nearby the site which is not necessarily representative of the air quality at the Site, the background map data are used for the pollutants considered in the assessment.

¹⁵ UK AIR Background Mapping Tool. Available at: <https://uk-air.defra.gov.uk/data/laqm-background-home>

4 Assessment Methodology

Through discussion with North East Derbyshire District Council, it was agreed that the approach to be applied to this assessment would be based on the following:

- Qualitative assessment of impacts from the proposed development's construction phase on air quality through emission of dust and particulates; and
- Qualitative assessment of ambient NO₂ and PM₁₀ concentrations to which existing and new receptors may be exposed to upon completion of the development, based on a review of current pollutant concentrations and the expected traffic generated from the development, and comparison with the relevant guidance. The results of which will determine whether a dispersion modelling assessment is also required to quantitatively assess the air quality impacts.

4.1 Construction Effects

The assessment of potential dust/PM₁₀ effects in relation to the development's construction phase has been undertaken qualitatively in accordance with IAQM Guidance². The guidance proposes a method to assess the significance of construction dust impacts by considering the annoyance due to dust soiling, as well as harm to ecological receptors and the risk of health effects due to significant increases in dust/PM₁₀ concentrations.

Construction site activities are divided into four types to reflect their different potential impacts. These activities are:

- Demolition – an activity involved with the removal of an existing structure or structures;
- Earthworks – the processes of soil-stripping, ground-levelling, excavation and landscaping;
- Construction – an activity involved in the provision of a new structure; and
- Trackout – the transport of dust and dirt from the development site onto the public road network. This arises when lorries leave site with dusty materials or transfer dust and dirt onto the road having travelled over muddy ground on-site.

A detailed assessment is required where a sensitive human receptor is located within 350 m from the development site boundary and/or within 50 m of the route(s) used by vehicles on the public highway, up to 500 m from the development site entrance(s).

The first step of the detailed assessment is to assess the risk of dust impacts. This is undertaken separately for each of the four activities (demolition, earthworks, construction and trackout) and takes account of:

- The scale and nature of the works, which determines the potential dust emission magnitude; and
- The sensitivity of the area.

These factors are combined to give an estimate of the risk of dust impacts occurring. Risks are described in terms of there being a "Low", "Medium" or "High" risk of dust impact for each of the four separate potential activities. Where there are low, medium or high risks of an impact, then site specific mitigation will be required, proportionate to the level of risk.

Based on the threshold criteria and professional judgment, one or more of the groups of activities may be assigned a “Negligible” risk. Such cases could arise, for example, because the scale is very small and there are no receptors near to the activity.

Site-specific mitigation for each of the four potential activities is then determined based on the risk of dust impacts identified. Where a local authority has issued guidance on measures to be adopted at demolition/construction sites, these should also be taken into account. Professional judgment is then employed to examine the residual dust effects assuming mitigation to determine whether or not they are significant.

4.2 Operational Effects - Road Traffic Emissions

The assessment of air quality effects in relation to the development’s operational phase has been undertaken qualitatively in accordance with EPUK/IAQM Guidance. The EPUK/IAQM guidance³ refers to the Town and Country Planning (Development Management Procedure) Order (England) 2010 definition of a “Major” development when scoping assessments required for the planning process.

Table 4.1 provides the criteria which determine whether a development can be classified as “Major”.

Consideration of air quality impacts and approaches to reduce impacts from any “Major” development is therefore recommended. The air quality impacts considered include both the impact of existing sources in the local area on the proposed development and the impacts of the proposed development on the local area.

With regard to changes in air quality or exposure to air pollution, the guidance indicates that each local authority will likely have their own view on the significance of this; these are to be described in relation to whether an air quality objective is predicted to be met, or at risk of not being met. Exceedances of these objectives are considered as significant if not mitigated.

As part of the impact of the proposed development on the local area, a two-staged assessment is recommended as per the guidance:

- Stage 1: Determines the need for an air quality assessment and requires any of the criteria under (1) coupled with any of the criteria under (2) in Table 4.1 to proceed to Stage 2.
- Stage 2: Where an assessment is deemed to be required, this may take the form of a simple quantitative assessment or a more detailed dispersion modelling assessment. The level of air quality assessment required is determined by the criteria in Table 4.2.

Table 4.1 – Stage 1 Criteria to Proceed to Stage 2

Criteria to Proceed to Stage 2	
1.	If any of the following apply: <ul style="list-style-type: none"> • 10 or more residential units or a site area of more than 0.5 ha • More than 1,000 m² floor space for all other uses or a site greater than 1 ha
2.	Coupled with any of the following: <ul style="list-style-type: none"> • The development has more than 10 parking spaces; or • The development will have a centralised energy facility or other centralised combustion process.

Table 4.2 – Indicative Criteria for Requiring an Air Quality Assessment

The Development will	Indicative Criteria to Proceed to an Air Quality Assessment
1. Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.
2. Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors.	A Change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100AADT elsewhere
3. Realign roads, i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5 m or more and the road is within an AQMA
4. Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.
5. Introduce or change a bus station.	Where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.
6. Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).
7. Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors. This includes combustion plant associated with standby emergency generators (typically associated with centralised energy centres) and shipping	Typically, any combustion plant where the single or combined NO _x emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion. In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be affected by the size and /or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where dispersion conditions are favourable, a much high emission rate may be acceptable.

5 Assessment Results

5.1 Construction Phase – Dust/PM₁₀ Emissions

This assessment of dust/PM₁₀ presents the effects which are likely to be relevant both prior to and following the use of the appropriate mitigation measures on-site. As per the IAQM guidance², the risk associated with the site to potentially generate dust/PM₁₀ is identified. Potential unmitigated effects at receptor locations are determined, and site-specific recommendations are then made to ensure residual dust/PM₁₀ effects associated with the construction phase are not significant.

The assessment of construction dust will focus on dust arising from four dust producing construction activities outlined in the IAQM guidance² (demolition, earthworks, construction and trackout).

Demolition

Potential sources of impacts associated with demolition activities include fugitive dust/PM₁₀ emissions resulting from dust release of demolished building, the building materials and wind action. The total building volume of the derelict office to be demolished is estimated to be less than 20,000 m³ (approx. 7,000 m³). As the building height is below 10m, the demolition activities will be within 10m above the ground. Although the building material is concrete which is potentially dusty, considering the small scale of demolition, the dust emission magnitude for demolition is therefore considered to be **small**.

Earthworks

Potential sources of impacts associated with earthworks/ground preparation activities include fugitive dust/PM₁₀ emissions resulting from disturbance of dusty materials by construction plant, the construction materials used, vehicle movements and wind action. The total site area is approximately 13,000 m². The paddock area (approx. 4,500 m²) will require soil stripping. The remaining area (predominantly covered with hardcore and road planings) will require levels regrading. The soil textures in the area are clayey loam to sandy loam¹⁶, which are potentially dusty soil types which will be prone to suspension when dry due to small particle size. It is estimated to be less than 20,000 tonnes of material to be moved. Therefore, the dust emission magnitude for earthworks is considered to be **medium**.

Construction

Potential sources of impacts associated with construction activities include fugitive dust/PM₁₀ emissions resulting from disturbance of dusty materials by construction plant, the construction materials used, vehicle movements and wind action. Construction activities at the development site will include a total building volume less than 25,000 m³. The dust emission magnitude for construction is therefore considered to be **small**.

Trackout

Dust emissions during trackout from the site may occur from the transport of dust and dirt from the construction site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. The majority of soils from the paddock are expected to be used to construct the screening bund. Hardcore and road planings arising from regrading will be reused on site. Material movements off-site will therefore be minimised. The number of predicted outward HDV (i.e. >3.5 tonne) movements in any one day is estimated to be less than 10, and the unpaved on-site road length is likely to be between 50 m and 100m. The dust emission magnitude for trackout is therefore considered to be **small**.

¹⁶ BGS Soil Observatory. Available at: <http://mapapps2.bgs.ac.uk/ukso/home.html>

Summary

A summary of the dust emission magnitude for the four activities is detailed in

Table 5.1.

Table 5.1 – Construction Dust Emission Magnitude

Activity	Dust Emission Magnitude
Demolition	Small
Earthworks	Medium
Construction	Small
Trackout	Small

Sensitivity of the Area

There are a number of residential properties that are located north-west and south-west to the development, on the south side of Mansfield Road. There are approximately 4 residential properties within 50 m of the development site boundary besides Mansfield Road opposite to the Site. Two buildings for construction equipment suppliers are located within 50m of the development site. Fewer than 10 residential properties on Mansfield Road are located less than 20 m from the main road within 200 m from the site entrance. The sensitivity of the area with respect to dust soiling effects on people and property is **low** in relation to earthworks and construction, and **medium** in relation to trackout.

The existing background PM₁₀ concentration is 12.1 µg/m³, which is well below the annual objective of 40 µg/m³. Given the above information regarding the number of receptors within 50 m of the site boundary and within 200 m from the site entrance on the public highway, the sensitivity of the area with respect to human health impacts in relation to earthworks, construction and trackout is therefore **low**.

Ecological receptors are defined in accordance with IAQM methodology², which namely consider areas protected by legislation, such as Sites of Special Scientific Interest. There is one nearby ecologically sensitive receptor within 2 km of the development site. Williamthorpe Local Nature Reserve (LNR) is located approximately 2 km south-east to the site. Given the location of the LNR where the features may be affected by dust deposition, the sensitivity of the area with respect to ecological impacts in relation to earthworks, construction and trackout is therefore **low**.

A summary of the sensitivity of the surrounding area is detailed in Table 5.2 below.

Table 5.2 – Sensitivity of Surrounding Area

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Low	Low	Low	Medium
Human Health	Low	Low	Low	Low
Ecological Impacts	Low	Low	Low	Low

Risk of Dust Impacts

The risk of dust impacts is defined using Tables 7, 8 and 9 in the IAQM guidance for demolition, earthworks, construction and trackout respectively. The dust emission magnitude classes in Table 5-1 combined with the sensitivity of surrounding area classes in Table 5.2, result in the development site risk categories as shown in Table 5-3.

Table 5.3 – Summary of Dust Risk

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Negligible	Low	Negligible	Negligible
Human Health	Negligible	Low	Negligible	Negligible
Ecological Impacts	Negligible	Low	Negligible	Negligible

Following the construction dust assessment, the development site is found to be **low risk** in relation to dust soiling effects on people and property, human health impacts and ecological impacts. However, providing effective mitigation measures are implemented, such as those outlined in Section 6.1, it is anticipated that construction dust impacts will be not significant.

5.2 Operational Phase - Screening Emissions from Road Traffic

Using the EPUK/IAQM Guidance³ and the Stage 1 criteria as shown in Table 4.1, owing to the proposed development being a recycling centre with waste inbound and outbound in operation but with the predicted AADT below 100, a Stage 2 assessment of air quality impacts is not required.

Table 5.4 reproduces the guidance published by EPUK/IAQM³, the criteria of which are used to determine when a further air quality assessment is likely to be required, and evaluates the proposed development in relation to each criterion.

A prediction of traffic generation was provided by Caulmert Ltd¹⁷. A total number of 50 daily vehicle traffics is predicted to be generated by the new development of the recycling centre. The total number includes 31 daily inbound vehicles and 19 daily outbound vehicles. According to the prediction of traffics, it is not likely that the development will cause a change of more than 100 AADT within the nearest AQMA (Chesterfield No.1 AQMA, no AQMA declared within North East Derbyshire). Therefore, a detailed dispersion modelling assessment is not required.

The air quality monitoring data within 2km from the site and the background map tool can give a good indication of the air quality in the surrounding area. The NO₂ monitoring data nearby and mapped background NO₂, PM₁₀ and PM_{2.5} concentrations predicted at the site are all well below the AQS annual mean objectives.

As a consequence of the information discussed above, it is considered unlikely that the development will lead to a significant depletion of air quality. In addition, it is unlikely that any of the sensitive receptors introduced to the area will be exposed to poor air quality as a result of the proposed development.

Table 5.4 – Significance of the Potential Operation Phase Impacts with Reference to the Criteria Identified by EPUK/IAQM Guidance

Indicative Criteria to Proceed to an Air Quality Assessment	Evaluation of the Potential Operational Impacts of Proposed Development Site
A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.	The proposed development site is located outside any AQMA. The nearest AQMA is Chesterfield No.1 AQMA which is around 2 km north-west to the site. A total number of 50 daily vehicle traffics is predicted to be generated by the development proposal of the recycling centre. Thus, this would

¹⁷ Received via email on 29th June 2022.

Indicative Criteria to Proceed to an Air Quality Assessment	Evaluation of the Potential Operational Impacts of Proposed Development Site
	not cause more than 100 AADT generated within any AQMA, nor more than 500 AADT elsewhere.
A Change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.	The proposed development site is located outside any AQMA and the nearest Chesterfield No.1 AQMA is around 2 km north-west to the site. 50 additional HDV trips (AADT) are estimated to be generated as a result of the new development.
Road realignment, where the change is 5m or more and the road is within an AQMA.	No change of road realignment will be implemented.
Introduction of a new junction or the removal of an existing junction near to relevant receptors. This applies to junctions that cause traffic to significantly change vehicle accelerate/ decelerate, e.g. traffic lights, or roundabouts.	No new junctions will be introduced and no existing junctions will be removed.
Introduction or change of a bus station, where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA - more than 100AADT elsewhere.	No changes to a bus station are proposed.
Have an underground car park with extraction system, where the ventilation extract for the car park will be within 20m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).	Not applicable.
Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.	Not applicable.

Based on the above screening criteria not being met, it can be considered that the change in emissions during the operational phase of the development would be not significant.

Additionally, as discussed within the baseline review, it is considered that it is unlikely for there to be exceedances of Air Quality objectives at the new development based on the surrounding monitoring concentrations.

6 Recommended Mitigation Measures

6.1 Short-term Impacts during Construction – Dust / PM₁₀ Emissions

As discussed in Section 5.1, construction impacts associated with the proposed development would result in the generation of dust and PM₁₀. However, it is considered that employment of construction best practice should ensure that no problematic dust or PM₁₀ concentrations occur during the construction process.

The IAQM guidance² outlines a number of site-specific mitigation measures based on the assessed site risk. Mitigation measures are recommended in relation to the principles of good practice and the implementation of these measures is dependent on their site-specific practicality. The measures are grouped into those which are highly recommended and those which are desirable.

As the site is classed as **low risk** concerning dust soiling effects, impacts on human health and ecological factor, the following mitigation measures are **highly recommended**:

- Develop With respect to communications:
 - Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
 - Display the head or regional office contact information.
- With respect to site management:
 - Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
 - Make the complaints log available to the local authority when asked.
 - Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.
- With respect to monitoring:
 - Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
 - Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- With respect to preparing and maintaining the site:
 - Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
 - Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
 - Avoid site runoff of water or mud.

- With respect to operating vehicle/machinery and sustainable travel:
 - Ensure all vehicles switch off engines when stationary - no idling vehicles.
 - Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- With respect to operations:
 - Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
 - Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
 - Use enclosed chutes and conveyors and covered skips.
 - Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- With respect to waste management
 - Avoid bonfires and burning of waste materials.

With the following mitigation measures being **desirable**:

- Develop With respect to communications:
 - Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM₁₀ continuous monitoring and/or visual inspections.
- With respect to monitoring:
 - Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.
- With respect to preparing and maintaining the site:
 - Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
 - Keep site fencing, barriers and scaffolding clean using wet methods.
 - Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.

- Cover, seed or fence stockpiles to prevent wind whipping.
- With respect to operating vehicle/machinery and sustainable travel:
 - Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate.
- With respect to operations:
 - Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

As the Site is classed as **Low Risk** for Earthworks no specific mitigation measures are required.

6.2 Impacts during Operation – Road Traffic Emissions

As identified in Section 5.2, the development's operation is not predicted to significantly impact air quality or increase the number of sensitive receptors which are exposed to poor air quality. However, as per the updated building regulations 2010 (2021 edition)¹⁸, the following must be implemented with regards to electric vehicle charging points for new residential development from 15 June 2022:

- For new buildings other than residential or mixed-use buildings with more than 10 parking spaces, both of the following apply.
 - a. One electric vehicle charge point must be provided for the building.
 - b. At least one in every five remaining parking spaces must be provided with cable routes.

NOTE: A minimum of one in every five means that, for example, if there are 11 parking spaces, two parking spaces must have access to cable routes in addition to the one parking space with access to an electric vehicle charge point.

¹⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1057375/AD_S.pdf

7 Conclusions

Caulmert Ltd has commissioned Bureau Veritas UK Ltd to undertake an air quality assessment in order to support a planning application for a recycling centre on Mansfield Road, Corbriggs for the demolition of derelict offices and workshop buildings and for the construction of facilities for reception, shredding, stockpiling and transfer of waste wood. The proposed development consists of 2 container office buildings, 1 processing plant, 2 existing car parks, 1 new car park, 1 area as quarantine area/overnight parking for HGV & mobile plant, 1 area for overnight parking for HGV & mobile plant, 10 stock piles for storage. Based on Phase 1 development, Phase 2 development consists of extended container offices building, extended area for quarantine area/overnight parking for HGV & mobile plant and 1500m³ max 'Paddock' Chip bunkers area.

The impacts upon air pollutant concentrations in the area surrounding the Site, during the construction phase and operational phase of the proposed development have been assessed. The following section provides the conclusions of this assessment. It is considered that there is sufficient evidence that the impact of emissions to air on the proposed development site would not be significant based on the assessment.

7.1 Construction Effects – Dust / PM₁₀ Emissions

The assessment of dust and PM₁₀ effects from the construction phase of the development was subject to a qualitative assessment following IAQM guidance². It is desirable that effective mitigation measures for fugitive dusts would be implemented under site management controls by the development company via the utilisation of a DMP. Mitigation measures have been recommended in relation to the principles of good practice and the implementation of these measures is dependent on their site-specific practicality.

With such mitigation in place, the assessment carried out has shown that any off-site impacts from dust emissions during the construction phase would be **not significant**.

7.2 Operational Effects – Road Traffic Emissions

The assessment of air quality effects in relation to the development's operational phase has been undertaken qualitatively in accordance with EPUK/IAQM Guidance³. The assessment considered ambient NO₂, PM₁₀ and PM_{2.5} concentrations to which existing and new receptors may be exposed to upon completion of the development. Based on a review of current pollutant concentrations and the expected traffic generated from the development, the air pollutants concentrations at the proposed development site are not likely to exceed the annual mean AQS objectives.

The data from the Defra background mapping tool suggests that pollutant levels in the vicinity of the site are generally below the relevant annual mean AQS objectives. This therefore indicates that air quality in the area surrounding the development site is currently good, and the development is unlikely to introduce new sensitive receptors into an area of poor air quality.

The development proposal is predicted to generate less than 100 AADT (including HDV trips) once operational. In addition, The proposed development site is located outside any AQMA and the nearest Chesterfield No.1 AQMA is around 2 km north-west to the site.

Therefore, in line with guidance provided by the Council and EPUK/IAQM, the impact on local air quality conditions arising from increased traffic flows as a result of the development can be described as **not significant**.

Appendices

Appendix A – Development Site Layout

Figure A.1 Development Site Layout – Phase 1

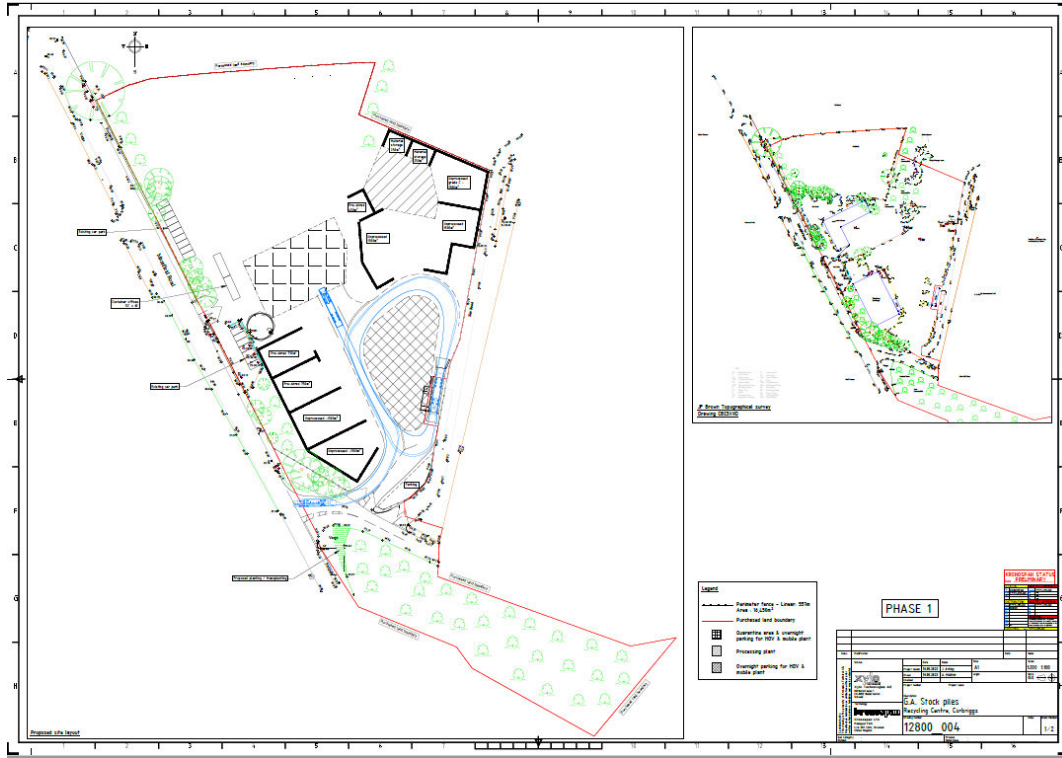


Figure A.2 Development Site Layout – Phase 2 Proposed Service Layout

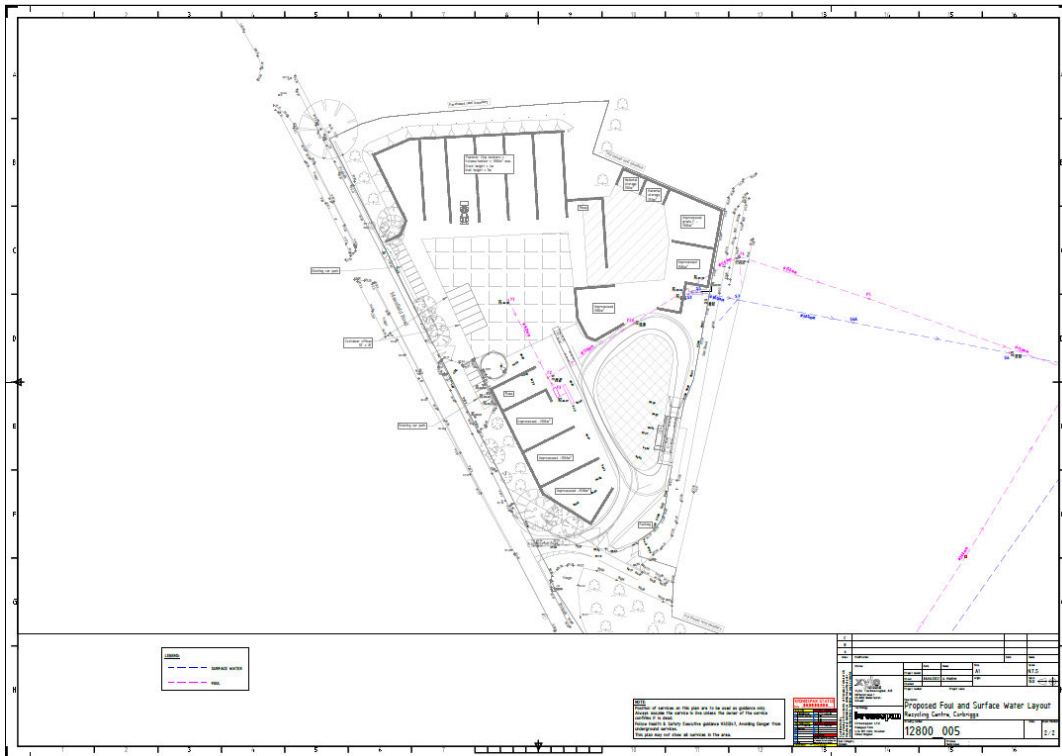
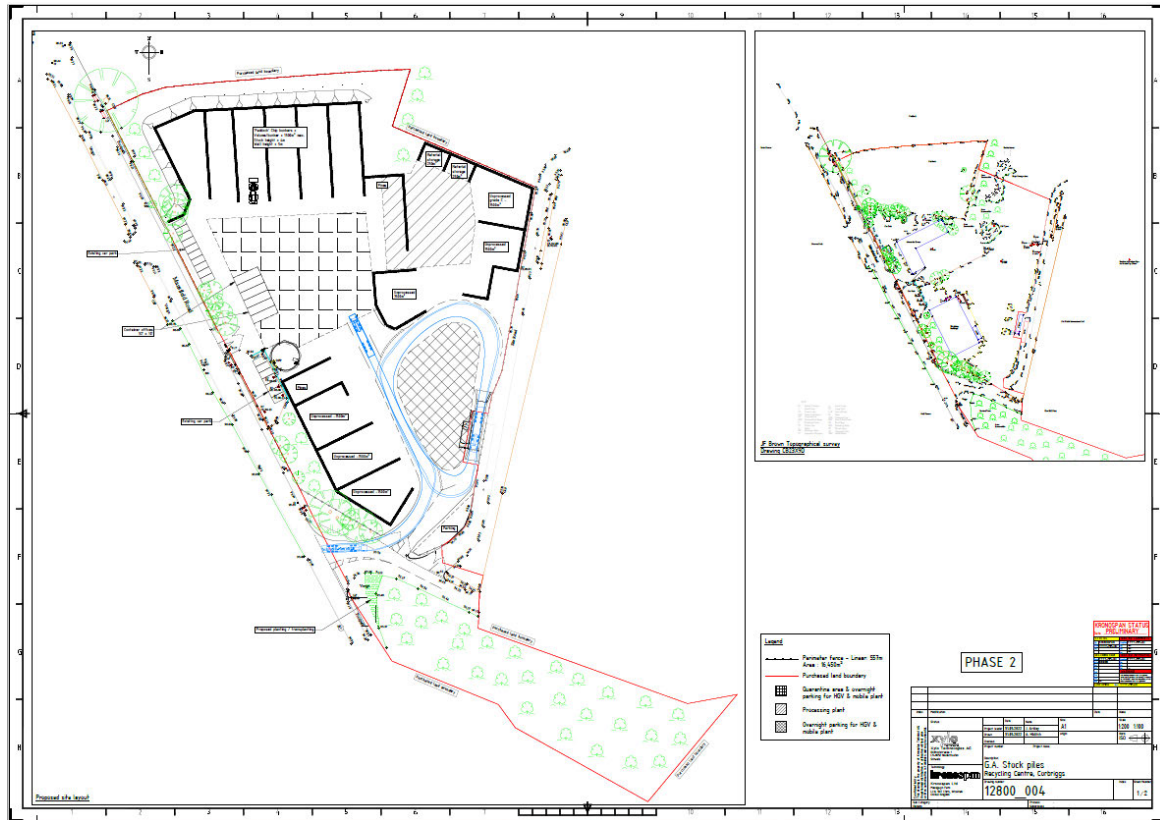


Figure A.3 Development Site Layout – Phase 2



Appendix B – Background to Air Quality

Emissions from road traffic contribute significantly to ambient pollutant concentrations in urban areas. The main constituents of vehicle exhaust emissions, produced by fuel combustion are carbon dioxide (CO₂) and water vapour (H₂O). However, combustion engines are not 100% efficient and partial combustion of fuel results in emissions of a number of other pollutants, including carbon monoxide (CO), particulate matter (PM), Volatile Organic Compounds (VOCs) and hydrocarbons (HC). For HC, the pollutants of most concern are 1,3 - butadiene (C₄H₆) and benzene (C₆H₆). In addition, some of the nitrogen (N) in the air is oxidised under the high temperature and pressure during combustion; resulting in emissions of oxides of nitrogen (NO_x). NO_x emissions from vehicles predominately consist of nitrogen oxide (NO), but also contain nitrogen dioxide (NO₂). Once emitted, NO can be oxidised in the atmosphere to produce further NO₂.

The quantities of each pollutant emitted depend upon a number of parameters; including the type and quantity of fuel used, the engine size, the vehicle speed, and the type of emissions abatement equipment fitted. Once emitted, these pollutants disperse in the air. Where there is no additional source of emission, pollutant concentrations generally decrease with distance from roads, until concentrations reach those of the background.

This air quality assessment focuses on NO₂, PM₁₀ and PM_{2.5} as these pollutants are associated with pollutant emissions from road sources. This has been confirmed over recent years by the outcome of the Local Air Quality Management (LAQM) regime. Recent statistics¹⁹ regarding Air Quality Management Areas (AQMA) show that approximately 650 AQMAs are declared in the UK. The majority of existing AQMAs have been declared in relation to road traffic emissions.

In line with these results, the reports produced by the Council under the LAQM regime have confirmed that road traffic within their administrative area is the main issue in relation to air quality.

An overview of this pollutant, describing briefly the sources and processes influencing the ambient concentrations, is presented below.

Nitrogen Oxides (NO_x)

NO and NO₂, collectively known as NO_x, are produced during the high temperature combustion processes involving the oxidation of N. Initially, NO_x are mainly emitted as NO, which then undergoes further oxidation in the atmosphere, particularly with ozone (O₃), to produce secondary NO₂. Production of secondary NO₂ could also be favoured due to a class of compounds, VOCs, typically present in urban environments, and under certain meteorological conditions, such as hot sunny days and stagnant anti-cyclonic winter conditions.

Of NO_x, it is NO₂ that is associated with health impacts. Exposure to NO₂ can bring about reversible effects on lung function and airway responsiveness. It may also increase reactivity to natural allergens, and exposure to NO₂ puts children at increased risk of respiratory infection and may lead to poorer lung function in later life.

In the UK, emissions of NO_x have decreased by 62% between 1990 and 2010. For 2010, NO_x (as NO₂) emissions were estimated to be 1,106kt. The transport sector remained the largest source of NO_x emissions with road transport contribution 34% to NO_x emissions in 2010.

Particulate Matter

Particulate matter is a mixture of solid and liquid particles suspended in the air. There are a number of ways in which airborne PM may be categorised. The most widely used categorisation is based

¹⁹ Statistics from the UK AQMA website available at <http://aqma.Defra.gov.uk> – Figures as of January 2017

on the size of particles such as PM_{2.5}, particles of aerodynamic diameter less than 2.5µm (micrometre = 10⁻⁶ metre), and PM₁₀, particles of aerodynamic diameter less than 10µm. Generically, particulate residing in low altitude air is referred to as Total Suspended Particulate (TSP) and comprises coarse and fine material including dust.

Particulate matter comprises a wide range of materials arising from a variety of sources. Examples of anthropogenic sources are carbon (C) particles from incomplete combustion, bonfire ash, recondensed metallic vapours and secondary particles (or aerosols) formed by chemical reactions in the atmosphere. As well as being emitted directly from combustion sources, man-made particles can arise from mining, quarrying, demolition and construction operations, from brake and tyre wear in motor vehicles and from road dust resuspension from moving traffic or strong winds. Natural sources of PM include wind-blown sand and dust, forest fires, sea salt and biological particles such as pollen and fungal spores.

The health impacts from PM depend upon size and chemical composition of the particles. For the purposes of the AQS objectives, PM₁₀ or PM_{2.5} is solely defined on size rather than chemical composition. This enables a uniform method of measurement and comparison. The short and long-term exposure to PM has been associated with increased risk of lung and heart diseases. PM may also carry surface-absorbed carcinogenic compounds. Smaller PM have a greater likelihood of penetrating the respiratory tract and reaching the lung to blood interface and causing the above adverse health effects.

In the UK, emissions of PM₁₀ have declined significantly since 1980, and were estimated to be 114kt (kilotonne) in 2010²⁰. Residential / public electricity and heat production and road transport are the largest sources of PM₁₀ emissions. The road transport sector contributed 22% (25kt) of PM₁₀ emissions in 2010. The main source within road transport is brake and tyre wear.

It is important to note that these estimates only refer to primary emissions, that is, the emissions directly resulting from sources and processes and do not include secondary particles. These secondary particles, which result from the interaction of various gaseous components in the air such as ammonia (NH₃), sulphur dioxide (SO₂) and NO_x, can come from further afield and impact on the air quality in the UK and vice versa.

²⁰ National Atmospheric Emissions Inventory (NAEI) Summary Emission Estimate Datasets 2010. March 2012

APPENDIX 6

Noise Impact Assessment ref. UK.15174559/02



Caulmert

Land at Mansfield Road, Corbriggs

Noise Impact Assessment

UK.15174559/02 – October 2022

Move Forward with Confidence



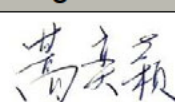

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Document Control Sheet

Identification	
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Document Title	Noise Impact Assessment – Land at Mansfield Road, Corbriggs
Bureau Veritas Ref No.	UK.15174559/02

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Configuration				
Version	Date	Author	Reason for Issue/Summary of Changes	Status
00	11/08/22	Y Hao	Draft for discussion	Superseded
01	20/10/22	Y Hao	Change of Site layout	Superseded
02	21/10/22	Y Hao	Updated TS and comments from client	Live

	Name	Job Title	Signature
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Commercial In Confidence

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Executive Summary

Bureau Veritas was instructed by Caulmert to undertake an environmental noise assessment of the proposed waste wood processing site at the land at Mansfield Road, Corbriggs, Derbyshire.

An assessment of the operational noise impact has been carried out in accordance with British Standard 4142: 2014 to consider the potential noise impact on the nearby residential receptors.

To establish the current levels of ambient and background sound level at the site, an attended noise measurement survey was conducted during a quiet daytime period at a monitoring location representative for the receptors in June 2022 to obtain the background noise levels to be used in the assessment.

Existing ambient noise levels at the nearest noise sensitive receptors are dominated by the noise from Mansfield Road and the A617 dual carriageway. In the absence of local traffic noise, birdsong also contributed to the acoustic climate.

A computational noise model of the proposed development was assembled and populated with the noise emission data of the new sound sources. Standard noise propagation calculations were used to predict the site operation noise levels at the nearest residential receptors.

The assessment concludes that the noise impact of the site operation would be below the Lowest Observed Adverse Effect Level at the nearest residential receptors, and that operational traffic generated by the development would have a negligible noise impact.

Introduction

- 1.1 Bureau Veritas was instructed by Caulmert Ltd to undertake an environmental noise assessment of the proposed waste wood processing site at Mansfield Road, Corbriggs, Derbyshire.
- 1.2 A glossary of acoustic terminology is included in Appendix One.

Site location

- 2.1 The proposed site is located in the village of Corbriggs off Mansfield Road, which links to Chesterfield to the northwest. A617 runs approx. 120 m to the northeast of the site. An industrial site is located to the immediate east of the site. The nearest residential dwellings are approx. 45 m to the south of the site. Grassland covers most of the areas to the west of the site. A travellers' site is to the northwest of the site, with Mansfield Road running between. Further residential dwellings are approx. 90 m to the northwest of the site.
- 2.2 The nearest noise sensitive receptors (NSRs) are identified as residential dwellings to the south (NSR1), travellers' site (NSR2) and residential dwellings to the northwest (NSR3).
- 2.3 The site location and the locations of the NSRs are shown in Appendix Two

Details of Development

- 3.1 The development related to the waste wood processing is proposed as below:
 - The demolition of existing derelict offices and workshop buildings;
 - The construction of site office off Mansfield Road, Weighbridge & Office;
 - Mobile Plant;
 - Stockpiling spaces, staff and visitor parking and pedestrian walkway;
 - The installation of perimeter fences, fire water storage tank, fire water equipment container, fire water containment wall, etc.
- 3.2 The proposed layout of the development for the assessment is shown in Appendix Three.

Criteria for Assessment

Assessment Methodology

- 4.1 The sounds caused by the proposed development are all considered as industrial noise, therefore British Standard 4142: 2014+A1: 2019 is the main guidance for the assessment, along with the other relevant references, to assess the potential noise impact on the nearby sensitive receptors.
- 4.2 The relevant guidance documents are listed below:
 - National Planning Policy Framework (NPPF) 2021; and the supplementary Planning Practice Guidance for Noise (PPG(N)) Dec 2014;

- British Standard 4142: 2014, “Methods for rating and assessing industrial and commercial sound” (BS4142);
- British Standard 8233: 2014, “Guidance on sound insulation and noise reduction for buildings”;
- The Design Manual for Roads and Bridges Vol 11; and
- ISO 9613-2:1996 ‘Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation’

Planning Policy

National Planning Policy Framework, 2021

- 4.3 The Revised NPPF (July 2021) sets out the Government’s planning policies for England. It states:

“174. Planning policies and decisions should contribute to and enhance the natural and local environment by: ...

- e) *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and ...”*

- 4.4 It goes on to state:

“185. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life [NPSE – see below];*
- b) *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and...*”

- 4.5 The terms ‘significant adverse impact’ and other adverse impacts are defined in the explanatory notes of the ‘Noise Policy Statement for England (NPSE), which states:

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur

- 4.6 It should be noted that specific noise limits for LOAEL and SOAEL have not yet been specifically defined, and would be specific to different sectors. However, guidance from other acoustic standards may be employed to determine suitable levels within the overall principle of the NPPF.
- 4.7 The Planning Practice Guidance for Noise (PPGN) provides further detail about how the effects of noise can be categorised. Table 4.1 summarises the noise exposure hierarchy.

Table 4.1: National Planning Practice Guidance Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not present	No Effect	No Observed Effect	No specific measures required
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in the behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in the behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Technical Guidance

British Standard 4142: 2014+A1: 2019 'Methods for rating and assessing industrial and commercial sound'

- 4.8 The Standard provides a method for assessing whether a sound from industrial or commercial premises (e.g. fixed mechanical and electrical (M&E) plant, loading activities etc.) is likely to cause a disturbance to persons living in the vicinity of the site.
- 4.9 BS 4142 assesses potential significance of effect by comparing the 'specific sound level' of an industrial source to the typically representative background sound level (L_{A90}). Certain acoustic features can increase the potential for a sound to attract attention, and therefore increase its relative significance than that expected from a simple comparison between the specific sound level and the background sound level. In particular, BS 4142 identifies noise that contains discrete impulses and/or audible tonal qualities and in these cases recommends that a correction be added to the specific sound level. The specific sound level along with any applicable correction is referred to as the 'rating level'.
- 4.10 The greater the difference between the rating level and the background sound level; the greater the likelihood of complaints. The assessment criteria given by BS 4142 are as follows:
- A difference of +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
 - A difference of +5 dB could be an indication of an adverse impact, depending on the context.
 - The lower the rating level is relative to the measured background sound level, the less likely it is that there will be an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.
 - Also to take into account the absolute level, risk that it will cause annoyance/interference with everyday activities, context of the sound, frequency and temporal variations to the sound.
- 4.11 During the daytime and evening, BS 4142 requires that sound levels are assessed over 1-hour periods. During the night-time, because sleep disturbance is the important issue and individual sound events are, therefore, more important, sound levels are assessed over 15-minute periods.

British Standard 8233: 2014 Guidance on Sound Insulation and Noise Reduction for Buildings

- 4.12 BS 8233:2014 provides guidance for the control of noise in and around buildings. It is applicable to the design of new buildings, or refurbished buildings undergoing a change of use.
- 4.13 With regards to external sound sources affecting habitable residential spaces, Table 4 of BS 8233:2014 provides guideline values that it is desirable to not exceed during daytime and night-time periods. These guideline values are reproduced in Table 4.2.

Table 4.2: Indoor ambient sound levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 dB $L_{Aeq,16hour}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

- 4.14 For traditional external areas that are used for amenity space, such as gardens and patios, BS8233 states that it is desirable that the external sound level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments.

The Design Manual for Roads and Bridges Vol 11

- 4.15 The Highways Agency guidance document *Design Manual for Roads and Bridges* (DMRB) (Vol. 11, 2011, Rev.1) includes guidance on the interpretation of changes in road traffic noise levels ($L_{A10,18hr}$) for determining the potential magnitude of effect. The suggested criteria for short-term (immediate at point of opening) effects are presented in Table 4.3.

Table 4.3 DMRB Classification of Magnitude of Traffic Noise Impacts in the Short Term

Noise Change $L_{A10,18h}$	DMRB Magnitude of Impact
0	No change
0.1 - 0.9	Negligible
1.0 - 2.9	Minor
3.0 - 4.9	Moderate
5+	Major

Source: DMRB HD213/11 Table 3.1

ISO 9613-2:1996 ‘Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation’

- 4.16 ISO 9613-2:1996 specifies methods for the description of sound outdoors in community environments. ISO 9613 can be applied to a wide variety of sound sources and includes methods to determine most of the major mechanisms of sound attenuation, such as:
- Geometric divergence (A_{div}) – spherical spreading of sound energy;
 - Atmospheric absorption (A_{atm}) – attenuation of sound due to interaction with the air (dependant on frequency of sound and negligible at short distances);
 - Ground effect (A_{gr}) – sound reflecting by the ground surface interfacing with the sound propagating directly from source to receiver;
 - Reflection from surfaces (image source method, included in A_{gr} calculation) – sound is reflected from hard surfaces such as building facades due to atmospheric impedance of the surface. This effect increases the sound level when compared to a location free of buildings (i.e. free field); and
 - Screening by obstacles (A_{bar}) – Hard obstacles such as close-boarded timber fences and varying topography, including hills attenuate the sound from a source due to the insertion loss properties of the obstacle. However, there is an element of the sound which will diffract around the obstacle,

especially at lower frequencies. The diffraction effect is determined using the path differences between the direct and diffracted sound. It should be noted that the screening effect provided by trees and foliage is negligible in the majority of cases; the exception is large areas of dense forest or plantations.

Local Planning Policy

Adopted North East Derbyshire local Plan 2014 to 2034

4.17 The North East Derbyshire Local Plan 2014-2034 was formally adopted by the Council on 29th November 2021 and is used to guide decisions on planning applications and areas where investment should be prioritised.

4.18 *Policy SDC13: Environmental Quality:*

1. All development proposals will be assessed in relation to their impact on air, light, noise, ground and water pollution. Planning permission will be refused for any proposal where pollution would pose an unacceptable risk to public health, quality of life or the environment.

...

3. Planning applications for development with the potential to pose a risk of pollution should be accompanied by an assessment of the likely impact of the development on environmental quality. Assessments of the risk of air, light, noise, ground or water pollution should relate to all stages of development."

4.19 It is also stated in the section Noise and tranquillity that:

"Man-made sources which is excessive, causes disturbance or annoyance, and can affect wildlife and sensitive areas, including areas known for their tranquillity. It often occurs as a result of industrial operations, transportation, or roads. National Policy and the NPPF acknowledge that good planning should aim to prevent the adverse effects of noise from being unacceptable, both in identifying locations for new noise sensitive and noise generating development."

Consultation

4.20 Prior to commencing the assessment work, Bureau Veritas discussed and agreed the scope of work and assessment methodology with Russell Smith, Environmental Protection Officer of North East Derbyshire District Council.

Baseline Sound Levels

- 5.1 To establish the ambient and background sound levels at the nearest receptors, attended baseline monitoring was carried out at a representative monitoring location during a quiet daytime period on 30th June 2022.
- 5.1 Monitoring location was approx. 8.2 m from the roadside of Mansfield Road, which has a similar distance to Mansfield Road as the NSRs. The monitoring location is shown in Appendix Two.
- 5.2 All measurements were undertaken in free-field conditions at a height of approximately 1.2 m above ground. The noise monitoring equipment was calibrated at the beginning and end of the assessment period using an acoustic calibrator, which had itself been calibrated against a reference set traceable to National and International Standards. No shift in calibration level was observed.
- 5.3 During the daytime measurement survey, the meteorological conditions were a slight (1-2 m/s) breeze from NW. The temperature was 15-16 °C, with 65% humidity and an atmospheric pressure of 1010 mb.
- 5.4 Existing ambient noise levels at the nearest noise sensitive receptors was dominated by the road traffic on Mansfield Road and the A617 dual carriageway. In the absence of local traffic noise, birdsong also contributed to the acoustic climate.
- 5.5 Table 5.1 presents a summary of the sound level survey results.

Table 5.1: Summary of Derived Sound Levels at the baseline monitoring location

Date	Start time	Sound Pressure Level, dB re: 20µPa (Fast, Free-field)			
		L _{Aeq,T}	L _{Amax,T}	L _{A10,T}	L _{A90,T}
30/06/2022	10:15	65	79	69	46
	10:30	64	76	69	48
	10:45	65	78	70	48
	11:00	65	79	70	47
	11:15	64	80	69	44
	11:30	64	78	69	47

- 5.6 The lowest daytime L_{A90,T} of the measured sound levels is 44 dB (see Table 5.1) and the average daytime L_{Aeq,T} is 65 dB.
- 5.7 The median background sound level during the surveyed quiet daytime period was determined to be 47 dB L_{A90} is considered to be the representative background sound level for the NSRs during daytime and 65 dB L_{Aeq} is representative ambient sound level.

Noise and Vibration Assessment

Introduction

- 6.1 For the Development, the impact assessment with respect to noise on the existing environment covers the following issues:
- Potential operational noise associated with fixed/mobile plant and vehicles (deliveries by HGV); and
 - Potential increase in local road traffic noise due to vehicle movements generated by the development once operational.
- 6.2 The assessment of the noise impact of the site operation is based on the ambient sound levels ($L_{Aeq,T}$) and the background sound levels ($L_{A90,T}$) measured/derived in June 2022. The sound levels of site operation at the nearest sensitive receptors are predicted by noise modelling, using CadnaA.
- 6.3 Noise propagation was predicted using algorithms described in ISO 9613-2, as incorporated within the noise modelling software.
- 6.4 Due to the typically low vibration levels that are likely to be generated, primarily by on site vehicle movements, it is expected that operational activities would not result in perceptible vibration impacts on any of the sensitive receptors. Therefore, no further assessment of operational vibration was undertaken.

Operational Noise

Identification of Sound Sources

- 6.5 Based on the site layout and the proposed process in the development proposal, the significant operational sound sources comprise:
- Waste wood shredder; and
 - Truck delivery, vehicle movements and car parking.
- 6.6 The operating hours of wood processing (shredding / screening) is proposed to be an average of 6-7 hours during the daytime period 07:00 – 19:00.
- 6.7 There are two proposed car parking plots for employees and visitors (17no. car parking spaces) and one quarantine area & overnight parking for HGV & mobile plant, one area for processing plant and one area for HGV and mobile plant overnight parking.
- 6.8 It is proposed that all HGV arrival and departure movements are via a new access formed on the concrete road located immediately south of the application Site.
- 6.9 The staff will work on a shift system. It is anticipated that there will be four shifts. The applicant has advised that a maximum of 10 employees will be on Site at once. The car parking is assumed to have 0.25 vehicle movements per hour per park space as a worst case.
- 6.10 The inbound and outbound vehicle movements for waste loads were calculated by Silva Recycling based on forecast split of load types and anticipated weights. For inbound traffic, there would be 110 loads (220 movements) per week, and for outbound traffic, there would be 66 loads (132 movements) per week.
- 6.11 The applicant has advised that waste reception will occur between 0700-1900 hours (i.e., 12 hours). It is proposed that the facility operates Monday to Sunday.

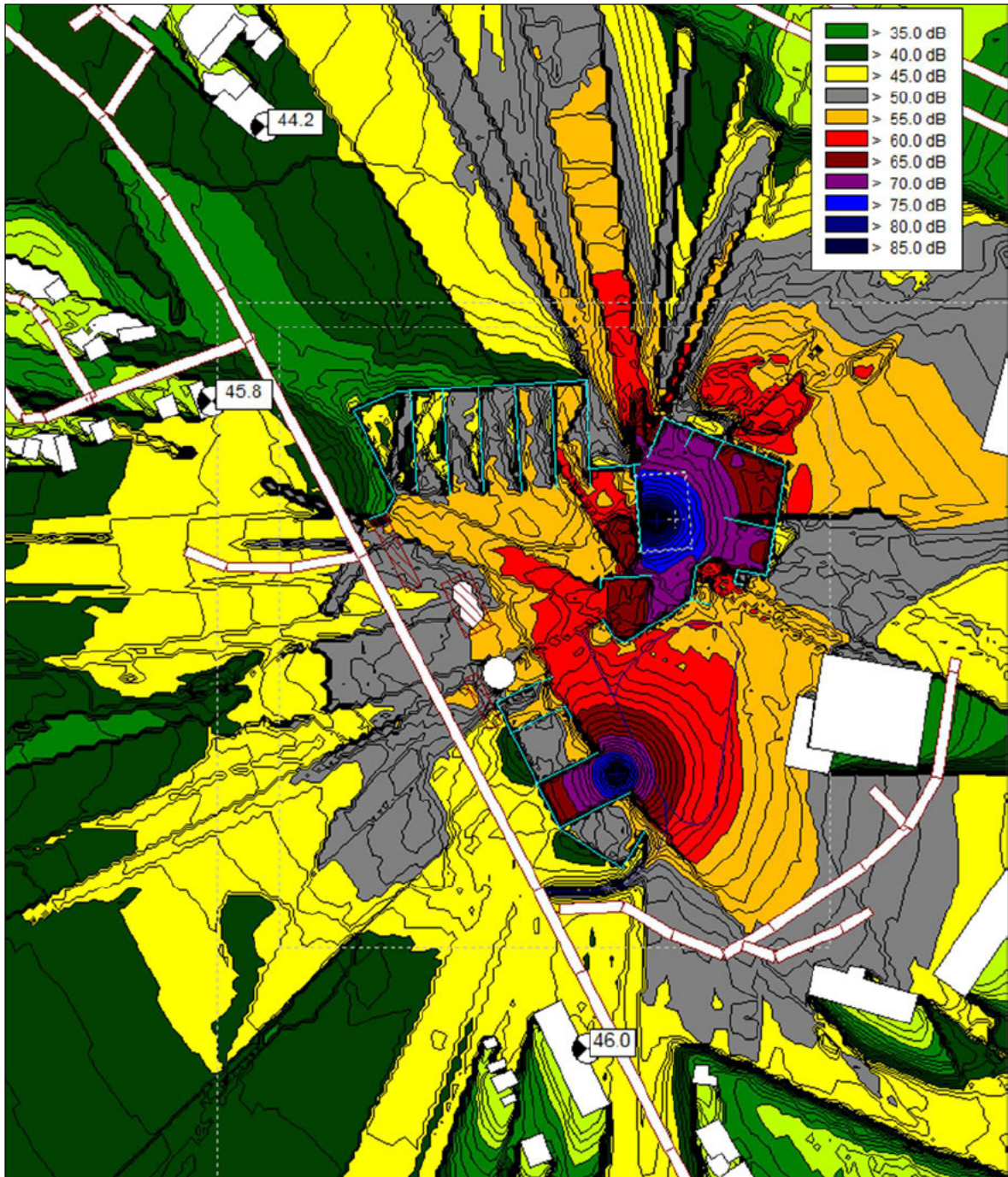
- 6.12 Worst-cases are used to allow the greatest level of flexibility in the development. The sound levels of the sound sources were assumed based on the BS 5228-1 sound level database and best practice on similar schemes. Appendix Four shows the assumptions of the acoustic data of the sound sources and the acoustic performance data for the proposed shredder. The modelled sound emission rates comprise:
- Shredder (electric, with diesel generator) = 111 dB L_{WA}, operating 6-7 hrs/day, at 1.5 m above ground.
 - Truck delivery = 116 dB L_{WA}, operating during 7 am to 7 pm, at 1 m above ground, weekdays only;
 - HGV movements with 50no. (two-way) per day, weekdays and weekends.
 - Sound power levels modelled using octave spectral distribution.
- 6.13 The heights of the point noise sources are assumed as the centre of each noise source.
- 6.14 As illustrated in the site layout (ref. 12800_004 PHASE 2 REV E-A1 - GA), the height of the walls for storage is 5 m. The storage walls are also included in the model.
- 6.15 The predicted specific sound levels at the nearest receptors during the daytime operation are shown in Table 6.1 below.

Table 6.1: Summary of Predicted Sound Levels on the nearest facades (day)

Receptor(s)	Sound Pressure Level, dB L _{Aeq,T} (Ground floor façade)
NSR1	46
NSR2	46
NSR3	44

- 6.16 Figure 6.1 shows the predicted sound propagation grids at 1.5 m at daytime.

Figure 6.1: Indicative Prediction of Specific Sound Level (Day) – 1.5 m above ground



BS4142:2014 Assessment

6.17 The indicative assessments to BS 4142:2014 are provided in Table 6.2 below:

Table 6.2: Indicative BS 4142:2014 Assessment - Daytime

Description	Result	Relevant Clauses of BS 4142:2014	Commentary
Specific Sound Level (free-field)	$L_{Aeq,T} = 46$ dB (R1) $L_{Aeq,T} = 46$ dB (R2) $L_{Aeq,T} = 44$ dB (R3)	7.3.6	Predicted level (free-field) at ground floor level at the nearest receptor. Determined by calculation using CadnaA.
Background sound level	47	8.1 and 8.2	The background noise levels (free-field) were measured at the monitoring locations close to the noise-sensitive receptors.
Acoustic features correction	+3 dB	9.2	A penalty of 3 dB for intermittency of operation of the shredder and HGV movements
Rating Level	49 dB (NSR1) 49 dB (NSR2) 47 dB (NSR3)		
Excess of Rating Level over Background Sound Level	+2 dB (NSR1) +2 dB (NSR2) +0 dB (NSR3)		
Assessment of impact: Assessment indicates low impact due to plant noise at the receptors		11	
Context: The dominant road noise at the receptor reduces the likelihood of an adverse impact from the wood processing site.			
Uncertainty of the assessment		10	The specific noise level has been predicted by CadnaA, which utilises ISO9613 calculations, which have a claimed uncertainty of +/- 3 dB. The background sound levels at the receptors are decided based on the short-term noise monitoring conducted during a quiet daytime period, avoiding peak commuting and lunch-time periods.

6.18 The results in Table 6.2 indicate that, during the daytime period, the predicted sound levels generated by the site would result in a low adverse impact at the nearest residential receptors.

6.19 Therefore, in reference to the noise hierarchy in Table 4.1, the noise may be present, but would not be intrusive, and therefore the operation noise of the site would be below the Lowest Observed Adverse Effect Level at the nearest residential receptors.

Operational Traffic noise

- 6.20 An increase of traffic flow in and out the site will bring about an increase in traffic noise levels of local roads. An increase in traffic flows in excess of 25% can bring about increases in noise levels above 1 dB.
- 6.21 According to the Transport Statement by Ashley Helm Associates (ref. 674/2/D) traffic flow data for Mansfield Road is following:
- AM peak hour: 410 vehicles (two-way), and
 - PM peak hour: 500 vehicles (two-way).
- 6.22 The current average daily HGV movements to the Site is 50 no. (two-way), which is mainly via Mansfield Road. The percentage increase in total vehicles on Mansfield Road would be below 25% (less than 1dB increase).
- 6.23 As traffic data provided by Silva Recycling, with regards to staffing, this would be dependent upon shift patterns, however, in relation to traffic movements coinciding with peak hours, it was expected as the following, which is considerably low numbers:
- AM peak hour: 4 arrival and 0 departure
 - PM peak hour: 0 arrival and 5 departure
- 6.24 The noise impact, based on the number of vehicle movements generated and the potential traffic noise change is therefore assessed as negligible.

Conclusions

- 7.1 Bureau Veritas was instructed by Caulmert to undertake an environmental noise assessment of the proposed waste wood processing site at the land at Mansfield Road, Corbriggs, Derbyshire.
- 7.2 An assessment of the operational noise impact has been carried out in accordance with British Standard 4142: 2014+A1:2019 to consider the potential noise impact on the nearby residential receptors.
- 7.3 The assessment concludes that, the noise impact of the site operation would be below the Lowest Observed Adverse Effect Level at the nearest residential receptors. The operational traffic noise is also predicted to have negligible impact on the nearest residential receptors.

Appendix One – Glossary of Acoustic Terminology

Sound power level	A logarithmic measure of the power of a sound relative to a reference value.
"A" Weighting (dB(A))	The human ear does not respond uniformly to different frequencies. "A" weighting is commonly used to simulate the frequency response of the ear. It is used in the assessment of the risk of damage to hearing due to noise.
Decibel (dB)	The range of audible sound pressures is approximately 2×10^{-5} Pa to 200 Pa. Using decibel notation presents this range in a more manageable form, 0 dB to 140 dB.
Ambient sound level, $L_{Aeq,T}$	equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time, usually from many sources near and far, at the assessment location over a given time interval, T. NOTE The ambient sound level is a measure of the residual sound and the specific sound when present.
Background sound level, $L_{90,T}$	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting F and quoted to the nearest whole number of decibels.
Maximum sound level, $L_{Amax,T}$	The maximum RMS A-weighted sound pressure level occurring within a specified time period.
Noise	Unwanted sound.
Ambient sound	Totally encompassing sound in a given situation at any given time composed of noise from many sources, near and far.
Residual sound	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Rating level	Specific sound level plus any adjustment for the characteristic features of the sound.

Appendix Two – Site Location



Appendix Three – Site Layout



Appendix Four – Sound Levels and operation time

Plant/noise source	Assumption of the noise emission levels			Plant reference
	% On-time	dB L _{Aeq} @ 10m	dB L _{WA}	
Electric shredder, powered by a diesel generator	80	83	111	Provided by client
Truck delivery	35	79	116	BS 5228, C8.20

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